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Vol. XLII **December, 1946** **No. 8**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The International Post Graduate Medical Assembly of Southwest Texas, sponsored principally by physicians of the Fifth and Sixth Councilor Districts of the Association but enjoyed and attended by doctors throughout Texas, resumes its annual clinical programs at San Antonio, January 28, 29, and 30, 1947, after a lapse of five years caused by World War II. This will be the eleventh scientific session of the Assembly.

Registration will begin promptly at 8:00 a. m. each day in the Municipal Auditorium. There will be General Assemblies each of the three days in the main part of the Auditorium, making it possible for all in attendance to hear all of the guest speakers. Clinical luncheons will also be held on each of the three days, sponsored by the various sections, and featuring the guest speakers. The afternoons will be given to clinical-pathological conferences, participated in both by guest speakers and by local physicians.

The following list of guest speakers assures an outstanding scientific program:

Dr. M. A. Blankenhorn, Director of Department of Internal Medicine, Cincinnati General Hospital, University of Cincinnati College of Medicine, Cincinnati.

Dr. Willard R. Cooke, Professor of Obstetrics and Gynecology, University of Texas Medical Branch, Galveston.

Dr. Austin I. Dodson, Attending Urologist, St. Elizabeth's Hospital, Richmond, Va.

Dr. William E. Gallie, Professor of Surgery, Banting Institute, Toronto, Canada.

Dr. Howard K. Gray, Chief of Surgical Section, Mayo Clinic, Rochester, Minn.

Dr. Francis E. LeJeune, New Orleans, La.

Dr. John McLean, Cornell University Medical School, New York.

Dr. Demetrio Sodi Pallares, National Institute of Cardiology, Mexico, D. F.

Dr. Henry G. Poncher, Professor and Head of Department of Pediatrics, University of Illinois College of Medicine, Chicago.

Dr. Edward H. Rynearson, Clinical Section, Mayo Clinic, Rochester, Minn.

Dr. Owen H. Wangensteen, Chief of Department of Surgery, University of Minnesota Medical School, Minneapolis.

Dr. Shields Warren, Pathologist, New England Deaconess Hospital, Boston.

Dr. Fred Wise, New York.

There will be technical and scientific exhibits, including motion pictures.

The subjects selected for the addresses of the guests are topical and cover practically every phase of medicine. This Assembly program presents an excellent opportunity for the medical profession of the Southwest to enjoy an intensive period of postgraduate instruction at home, which is gladly shared with other physicians throughout Texas or elsewhere who are members of their county and state medical associations. A registration fee of $15 covers all features of the Assembly program, including the clinical luncheons each day and a banquet at the Olmos Club the evening of the first day, January 28. The hospitality and ability of physicians of San Antonio to produce attractive scientific meetings is assurance that the 1947 Assembly will be well worth attending both from a scientific and good fellowship standpoint.

Texas Laws Pertaining to Inquests on the Cause of Death are outmoded and should be brought up to date and made effective. Physicians and others who have had to do with such matters in recent years have been keenly aware of the deficiencies in these laws, and, during the last session of the Legislature, it will be remembered that an attempt was made to pass a corrective bill. It will be further remembered that constitu-

tional difficulties were encountered and the bill had to be rewritten. A substitute measure prepared by the Attorney General's department was introduced, and it is believed would have become a law had there been time enough. Since the adjournment of the last Legislature, the need of such legislation has been emphasized by a number of incidents, some of them important, some of them not, but all of them pointing to the need of doing something about it, and something about it is due to be done.

A bill has been prepared and will be introduced in the forthcoming Legislature, which, it is thought, will correct a bad situation. The original versions of two years ago have been used in developing the new measure. The pathologists of the state warmly approved the idea, and also the bill as published elsewhere in this number (p. 501). The Executive Council of the State Medical Association likewise has endorsed the proposed legislation.

The revamped bill amends the present Articles of our Code of Criminal Procedures and other laws concerning inquests. Under the proposed bill any justice of the peace will be required to hold inquests in the following cases: (1) when a person dies in prison or in jail; (2) when any person is killed, or from any cause dies an unnatural death, except under sentence of the law, or dies in the absence of one or more good witnesses; (3) when the body of a human being is found, and the circumstances of his death are unknown; (4) when the circumstances of the death of any person are such as to lead to suspicion that he came to his death by unlawful means; (5) when any person commits suicide, or the circumstances of his death are such as to lead to suspicion that he committed suicide; (6) when a person dies without having been attended by a duly licensed and practicing physician, and the local health officer or registrar of vital statistics does not know the cause of death; and (7) when a person dies who has been attended by a duly licensed practicing physician or physicians, and such physician or physicians are not certain as to the cause of death.

The inquests thus authorized shall be held by the justice of the peace in the precinct in which the death occurred, or, in the event such justice of the peace is not available, or fails or refuses to act, the inquest shall be conducted by the nearest available justice of the peace.

The justice of the peace may cause a body upon which an inquest should have been held, to be disinterred for the purpose of holding such inquest, and autopsy shall be required prior to the cremation of any such body.

When attending physicians are not able to certify to the cause of death, they shall report the matter to the justice of the peace in the precinct in which the death occurred, and request an inquest. The same rule applies to the superintendent or general manager of a hospital or institution in which such deceased shall have died.

When the justice of the peace holds an inquest, he shall in all cases call in the county health officer where there is one, or a duly licensed and practicing physician where there is no county health officer, for the purpose of determining whether an autopsy is indicated or necessary. This is an important addition to the present law pertaining to the matter, the justice of the peace now having full authority to diagnose the case and make decision as to what shall be done about it. The new provision would throw medical light upon the subject.

The justice of the peace shall have authority to procure an autopsy in any case where one is indicated, and when there is indication of poisoning, the justice of the peace shall have authority to employ some medical expert, chemist, toxicologist, or licensed physician practicing pathology, qualified to make an analysis of the stomach and its contents, together with such other portions of the body as may be necessary to be analyzed and tested before determination is made.

In a case where death has occurred without medical attention, it is made the duty of the undertaker to notify the local registrar of the death, and the local registrar intervenes to bring about an inquest and whatever should transpire under that procedure. It will become the duty of the justice of the peace to furnish the registrar with the data required properly to classify the death. An important phase of the measure is that it provides that where a duly licensed physician performs an autopsy as ordered by the justice of the peace, in good faith and believing the order to be valid, the physician is not liable for any damage in the event it should be determined that the order for the autopsy is invalid. This provision is not retroactive.

It is not believed that there will be any organized opposition to the bill. On the contrary, it is felt that there are many, including physicians, who believe that something of the sort is necessary.

Medical Service in World War II will be subjected to a careful, painstaking study and critical analysis by a special committee of the American Medical Association appointed by the Board of Trustees in compliance with the action of the House of Delegates at the 1945 meeting. The committee, designated as the

National Emergency Medical Service Committee, first prepared a pilot questionnaire which was sent to 1,000 former medical officers selected at random throughout the nation. Forty-seven per cent of the pilot questionnaires were executed and returned, indicating the very great interest of these physicians in improving medical service for the Armed Forces and the conditions under which it will be rendered in national emergencies of the future. Technical defects noted in the returns of the pilot questionnaire were corrected, and during November, 1946, a revised questionnaire is being addressed to the 45,000 medical officers who served with military forces of the nation during World War II.

During the war and since its conclusion many critical letters were received in the headquarters office of the American Medical Association from physicians who served in the Armed Forces. Some of these letters were extremely bitter, expressing resentment because of conditions under which medical officers were required to serve, and complaining of such factors as methods of recruiting; rank received when commissioned; lack of and what was considered unfair promotion; wasted time as the result of too many medical officers for the number of forces served; assignment to nonprofessional duties that could easily have been cared for by others than physicians; seeming disregard for special training of medical officers, such as the assignment of pediatricians to sanitary inspections or eye, ear, nose, and throat specialists to general surgery; and many others too numerous to refer to here. Some of the complainants seemed to feel that the American Medical Association was to blame for it all, which of course is not true. Many efforts have been made in the past by the American Medical Association to correct what appear to be inequities and defects of the medical department of the Armed Forces but with little success.

The present study will be by far the most comprehensive, earnest effort yet made to determine what can and should be done to make most effective the services rendered by civilian physicians called into service in times of national crisis. The success of this effort will depend largely upon the thoughtful execution of the questionnaires sent to the physicians who served in World War II and have since returned to civil life. Texas physicians receiving the questionnaires are urged to take the time necessary to give the best answers of which they are capable in order that the special training, knowledge, and skill of the medical profession in future national emergencies may be utilized most effectively by the Armed Forces, while at the same time the civilian population, which must produce the tools of war, will be adequately cared for.

Distribution of Surplus Military Dried Blood Plasma, begun in Texas in February, 1946, by the State Health Department after receipt of an initial shipment from the American Red Cross, is still in progress. It will be recalled that the sudden cessation of hostilities in World War II, which came sooner than expected, found the Army and Navy with greater quantities of blood plasma on hand than could be used during its anticipated useful life, namely, five years from the date of its processing. The surplus amounted approximately to one and a quarter million one-unit packages. Public Law 457 of the 78th Congress, approved October 3, 1944, provided for the transfer of the dried plasma declared surplus to the American Red Cross, with the distinct provision that it should be used "solely for charitable purposes." The Red Cross felt that this surplus plasma should be returned to the American people who had donated it, for use in veterans' hospitals and in civilian medical practice. A plan for its distribution through state health departments was formulated and was submitted to and approved by the House of Delegates of the American Medical Association in 1945.

Briefly, the plan provided that the plasma be apportioned to the several states through their respective health departments on a population basis, weighted by the number of physicians and the number of general, pediatric, and maternal hospital beds, for "distribution without charge" to physicians and acceptable hospitals "for use in the treatment of any patient without charge for the product."

The initial shipment to Texas was 12,852 packages, received on February 1, 1946. This apportionment was calculated on the basis of one package for each licensed physician in the state (6,952), and one package for every four general, pediatric, and maternity hospital beds (4,728) plus a 10 per cent increase. This shipment had been entirely distributed by the State Health Department by August, 1946. To date, according to Dr. George W. Cox, State Health Officer, 18,852 units of the surplus plasma have been received and 16,338 units have been distributed to 212 hospitals and sixty-five individual physicians. Many hospitals have received second shipments.

Dr. Cox urges that hospitals and physicians who have not received their quotas* of

*EDITOR'S NOTE.—A complete discussion of the American Red Cross plan for distribution and use of the surplus plasma, presented to and concurred in by the Association of State and Territorial Health Officers, the American Medical Association, and the American Hospital Association, was published in *The Journal of the American Medical Association*, December 29, 1945, page 1275.

the plasma make requests as early as possible. Attention is called to the stipulation that no charges are to be made to patients receiving the plasma, that it is intended for return "to the people who gave it, for all who request it, as long as it lasts, and there are to be no economic restrictions on its use." The restriction as to charges refers to the product and not to its administration.

The Texas Physicians Committee of the National Physicians Committee for the Extension of Medical Service was established at a meeting in Dallas, September 8, of ninety physicians from all parts of the state, called by Dr. C. C. Cody, of Houston, who served as temporary chairman. A report of a nominating committee was adopted unanimously, naming the following officers and executive board for the permanent organization: chairman, Dr. F. J. L. Blasingame, Wharton; vice-chairman, Dr. E. A. Rowley, Amarillo; secretary-treasurer, Dr. X. R. Hyde, Fort Worth; executive board, Drs. Ralph H. Homan, El Paso; M. H. Bennett, Big Spring; R. R. Swindell, Amarillo; James S. Anderson, Brady; W. B. Russ, San Antonio; W. E. Whigham, McAllen; George Allen, Burnet; Harvey Renger, Hallettsville; J. G. Heard, Houston; L. C. Powell, Beaumont; Thomas M. Jarmon, Tyler; James C. Terrell, Stephenville; W. R. Snow, Abilene; George Schenewerk, Dallas; and L. C. Heare, Port Arthur.

During the morning session, following the organization, a comprehensive discussion of the purposes, objectives, and accomplishments of the National Physicians Committee was presented by Edward F. Stegen, Associate Administrator. During the afternoon session, Arthur L. Conrad, also of the National Physicians Committee, described the manner in which public hearings were conducted on the Wagner-Murray bill by the Senate Committee on Education and Labor in Washington.

Following the general sessions, the executive board met and voted that immediate steps should be taken to secure the financial and wholehearted support of the medical profession of Texas for the program of the National Physicians Committee, the purpose of which is to preserve American Medicine and to defeat the aims of those who would regiment the public and the medical profession of the United States.

Since the meeting, physicians of Texas have been circularized by Chairman Blasingame, asking financial support for the Committee, which has stimulated interest and inquiries regarding the matter.

First, it should be said that neither the Texas Physicians Committee nor the National Physicians Committee has any connection, official, financial, or otherwise, with the State Medical Association of Texas. The Texas Physicians Committee is a part of the National Physicians Committee and money given to the former will help finance the program of the national organization combating the movement to socialize medicine in the United States.

Second, it should be recorded again that the work and program of the National Physicians Committee has been repeatedly approved and commended officially by the American Medical Association and the State Medical Association of Texas.

Third, in answer to the fairly frequent question, what is the need for a national organization such as the National Physicians Committee since state medical associations have instituted vigorous programs of public relations, the latter would fall far short of their objectives without the implementation and correlation given to them by a nationwide program. The American Medical Association itself cannot do the work that has been done so effectively by the National Physicians Committee without being subjected to the likelihood of having to pay income taxes. If that should happen, the comprehensive research and unparalleled scientific program of the American Medical Association would be sadly curtailed and, in fact, practically done away with. That was the reason for the organization of the National Physicians Committee in the first place.

Physicians of the United States owe to this Committee a debt similar to that which the people of this country owe England for what she accomplished during World War II in holding the Nazi hordes at bay until America could prepare herself for war. The National Physicians Committee must be given credit for the magnificent job it did in combating compulsory sickness insurance in the United States until state medical associations could initiate public relations programs of their own. The story of what the N. P. C. has done and is doing is too long to tell here. Suffice it to say that the physicians of Texas may rest assured that the organization and program is sound, orthodox from the standpoint of medicine, well managed, and is doing an outstanding job. It is deserving of strong financial and moral support. Without it we in Texas would find our own efforts far more difficult.

And no Texas physician familiar with leaders in Texas medicine will for a moment question the motives or integrity of those who have been selected to head the newly formed Texas Physicians Committee of the

National Physicians Committee for the Extension of Medical Service. They merit our thanks and should and will receive our support.

The Christmas Seal Sale is called to the attention of our readers because of both general and special interests. The entire population is interested in the sale because the money realized therefrom is used in the crusade against tuberculosis. Doctors have a special interest in the matter because of their contacts with patients suffering from the disease. As a matter of fact, there is no responsibility involved other than that of the public as a whole, but there is and must be a special, impelling interest on the part of the doctor. It is expected that the medical profession will do its part and more in pushing the sale of Christmas Seals, and buy its share of them.

The fight against tuberculosis has been a long drawn out affair. Indeed, the fight against all diseases has been rather long drawn out, but the campaign against tuberculosis is the first organized campaign of the sort. It is succeeding. It is more desperately in need of help because of that fact. Now is not the time to lose interest in the movement. Indeed, the State Medical Association has renewed its interest in the fight on tuberculosis. It has recently set up a committee on a continuing basis, with instructions to give no quarter.

The National Tuberculosis Association is one of the truly orthodox lay health and welfare organizations in the country, and the Texas Tuberculosis Association is in constant and consistent coöperation with the State Medical Association of Texas. These organizations own the Christmas Seals.

Pay Dues Early. There is a reason. As announced in these columns last month, the fiscal year of the State Medical Association has been changed to accord with the calendar year, which is the membership year. As was explained last month, there will be no actual change in membership status, the membership year having always been from January to January, but there is a technical difference in the matter of bookkeeping. While dues have always been due January 1, as stated, there has heretofore been an interval of three months before the fact of payment, or to put it another way, the fact of delinquency, is made of record. In effect, and through the sufferance of county society secretaries, nobody knows whether any given member has paid dues until the county society annual report is filed with the State Secretary. The By-Laws of the State Medical Association state that membership is determined by reference to the annual reports of county society secretaries. In short, members have had from January 1 until April 1 in which to pay dues if their respective county society secretaries were agreeable. The change in the fiscal year makes a difference in the bookkeeping, which may or may not be important to the individual member. It is hoped that membership for 1947 will be rather generally paid for during the month of December. It will help a good deal if that is done, and the earlier payment won't hurt anybody.

Again we make the plea that members help their respective county society secretaries by paying dues voluntarily and without solicitation. It is perhaps appropriate to remind our readers that State Medical Association dues are $20, plus whatever the county society shall charge on its own account. There are other types of membership, intern, honorary, and military. Intern and honorary memberships dues are $4. The regular membership dues, intern, and honorary, include subscription to the JOURNAL and medical defense. Military membership dues are only $1, to cover medical defense. Subscription to the JOURNAL is not included.

The State Secretary has asked that county society secretaries remit dues as fast as they are collected, so that members may receive their membership cards and be listed as members.

CURRENT EDITORIAL COMMENT*

Demerol and Drug Addiction.—Since the dramatic recognition of the seriousness of addiction to cocaine and morphine, in the latter part of the nineteenth century, physicians have recognized the potential addiction properties of many other chemicals, including alcohol, the bromides, barbitals, and chloralhydrate. Many attempts have been made to develop morphine pain relieving drugs without the addiction properties characteristic of morphine itself. The National Research Council appropriated some $50,000 a year for nearly ten years for a coöperative study involving the Chemical Laboratory of the University of Virginia, the Pharmacology Laboratory of the University of Michigan, and a number of clinical investigators, to work on this problem.[2] The effort was later

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

consolidated in the United States Public Health Service. It was thought that slight chemical modification of the morphine molecule might result in divorcing the addiction properties of morphine from its pain relieving properties. In spite of the vast amount of important scientific information gained from the study, the results, from a practical standpoint, were negligible.

Commercial manufacturing houses have introduced many alleged non-addiction morphine substitutes. One of the earlier ones was "dilaudid." This was claimed on the basis of animal experiments and a few clinical observations to be non-addictive. However, it was soon discovered that, as the number of patients using it increased, cases of addiction appeared.

More recently German chemical concerns developed a morphine derivative called "dolantin" which was later introduced into the United States under the trade name "demerol." This drug was again claimed to be non-addictive, although it was asserted to be as powerfully pain relieving as morphine. Unfortunately, the pain relieving properties of the drug were exuberantly "dekruifed" in *Reader's Digest*. This article provoked severe reaction from the United States narcotic authorities, who reported many cases of addiction which were definitely traceable to the use of the drug.[1]

Physicians now recognize that drug addiction is largely a psychiatric problem. If a person cannot tolerate the environment in which he is forced to live, if he has something to run away from, he may find his "escape" in the use of some drug which will dull his appreciation of the environmental circumstances. Alcohol, morphine, and the central nervous system depressant drugs in general are of this type, and all of them are potentially addiction drugs. It is not likely that any significant central nervous system depressant drug will be found which will be wholly free from addiction properties, at least in the case of a person who is trying to "escape" from the unpleasant conditions of his environment. Physicians will wisely consider the possible factors in the environment of a patient which may lead to a psychiatric or suppressive impulse to "escape" in connection with any proposed continued administration of a central nervous system depressant or pain relieving drug.

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CHAUNCEY D. LEAKE, PH. D.
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HYPERTENSION

SOME USES AND ABUSES OF THE THIOCYANATES

M. HERBERT BARKER, M. D.
CHICAGO, ILLINOIS

The thiocyanates are known to relieve the symptoms and often reduce the blood pressure of certain patients suffering with cardiovascular-renal diseases and their use is being applied more extensively each year, both here and abroad. Both praise and denunciation of the thiocyanates appear in clinical literature,[15] most of which is understood by those experienced in the use of the thiocyanates in vascular disease.[8, 13, 14] Little information on pharmacology of the drug has appeared[5, 9, 10] and much more critical study should be fruitful as indicated by studies published thus far.[6, 7] The carefully controlled individualized dosage necessary to maintain the desired thiocyanate concentration in the body, between 6 and 12 mg., can be directed by the determination of the blood cyanate concentration as published in 1936.[1] That technique of thiocyanate administration and control has gone far to demonstrate the frequent great value of this drug when properly supervised and to avoid certain dangers of overdosage.

In my opinion, T. Izod Bennett recently crystallized the present state of the problem in his address on hypertension before the Royal Society of Medicine[4] by stating that

> "One of the few practical contributions to the therapeutics of hypertension is the potassium thiocyanate treatment. No one has as yet put forward any proof as to how this substance acts. . . . It is perhaps this lack of scientific explanation, together with the risk of toxic effects from overdosage and the necessity for somewhat frequent blood analysis, that has made us slow in employing this treatment on a large scale. But although its action is uncertain and its use requires great care, there is no doubt at all that potassium thiocyanate does sometimes give dramatic results in properly selected cases. . . . I cannot permit the criticism of the overcautious or the scepticism of the ultrascientific to divert me from the fact that this treatment is today the only treatment we possess to combat a disease which kills some hundred thousand people every year in England and Wales. It is doubtful if thiocyanate therapy will survive, but it will probably disappear not on account of its uncertainties or dangers but because it will be replaced by something more effective."

Personal clinical and experimental observations of thiocyanate therapy for the past eighteen years without a death attributable to the drug finds me in accord with Dr. Bennett, and no doubt a better understanding of the action, use, and contraindications

From the Department of Experimental Medicine, Northwestern University Medical School.
Read before a General Meeting, State Medical Association of Texas, Annual Session, May 8, 1946.

will be developed, which will clarify many of the questions discussed today.

Cardiorenal-vascular diseases destroy some 600,000 persons yearly in the United States, and this astounding figure overshadows the relatively small total loss of some 300,000 of our men in four years of the world's greatest war. The complications of hypertension account for this great number of cardiovascular deaths because of ultimate congestive heart failure, coronary occlusions, cerebral vascular accidents, or uremia. A few cases of high blood pressure follow nephritis, urinary tract infections, toxemias of pregnancy, impaired blood supply to the kidneys, or because of adrenal or other tumors such as the pheochromocytomas.[11] A differential diagnosis usually can be made by facilities available in almost all communities.

Obviously, if any condition is found that may lend itself to surgical or any other cure, the administration of nonspecific or palliative treatment is contraindicated, but such cases are few indeed. The largest number of patients with high blood pressure fall into that group commonly called benign or essential hypertension for which there is no specific therapy. But it should be emphasized that reassurance, mental and physical hygiene, weight control, vitamins, endocrine balance, and sedation are points of fundamental general management long used by many physicians, often with high degrees of success. Years of clinical and experimental observations of the thiocyanates in cardiorenal vascular disorders have resulted in knowledge of this additional, useful means of therapy in selected cases, as well as some contraindications or cautions which at times result in abuses of this valuable drug if it is casually employed.[3]

Certain general indications, cautions, and goals, which may be summarized briefly, are kept in mind in our clinic when the thiocyanates are to be used:

1. Plethoric hypertension cases (benign or essential) with distressing symptoms and/or cardiovascular disturbance in whom the red cell pack is usually found to be over 50 per cent (red blood cell count over 5 million) and the sedimentation rate 5 mm. or less. Such blood appears dark and viscid when drawn into a syringe. Continued controlled blood cyanate concentration (8 to 12 mg. per 100 cc.) usually results in a rather prompt relief of cerebral symptoms and often a gradual decrease in the systolic blood pressure of 10 to 20 mm. per week and a much slower effect on the diastolic level. Rarely should the total cyanate dosage exceed 5 grains (.3 Gm.) per day in the beginning months, but as renal thiocyanate clearance improves, the dosage may necessarily be increased to as much as 20 grains per day to maintain an adequate blood thiocyanate concentration with which the desired symptomatic relief and the hypotensive effect are generally associated. During the first three to four months of such therapy, the high cell pack and the low sedimentation rate will change. In fact, sharp

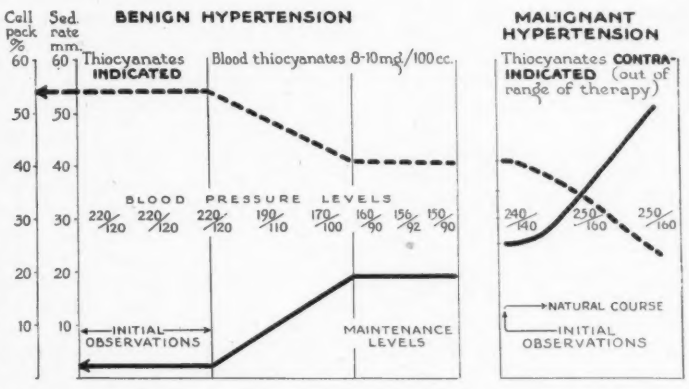

FIG. 1. Graph summarizing a series of carefully controlled plethoric hypertension cases.

drops in blood pressure should be avoided until a sedimentation rate of 15 or above and a hematocrit of 45 or less are obtained because of the danger of cerebral and coronary vessel occlusions.[1, 3] A lined graph represents a summary of a series of carefully controlled plethoric hypertension cases which brings out these interesting relations (fig. 1).

The occasional patient may develop a sharp normocytic or slightly microcytic anemia of such degree that the thiocyanates should be stopped. Most patients with blood counts reduced to 3.5 or 4.0 million present no untoward symptoms or findings and they usually feel better with their red blood cell counts about one million below their high control levels. Certainly, many amazing symptoms such as early morning headaches, ringing in the ears, dizziness, blurring of vision, insomnia, nervousness, and constipation are gradually relieved. In general, the goal seems to be a hematocrit reduction to 38 per cent in the female and 40 per cent in the male, and an increase in the sedimentation rate to 15 to 20 mm. in the uncomplicated case of hypertension. Such changes

in the blood constituents or qualities are by no means specific because relief of symptoms and other benefits may be obtained at times in chronic glomerular nephritis with contrary blood findings; such cases will be discussed later.

2. Uncontrolled congestive heart failure in hypertension where continued bed rest, digitalis, and diuretic regimes are insufficient to maintain comfort or capacity for a gainful occupation may be compensated by proper thiocyanate therapy. If the systolic and diastolic pressure may be reduced to levels of 180/100 to 150/90, an occasional patient may recover from a severe and repeated decompensation to return to a surprisingly satisfactory sustained activity. The heart shadows may reduce in size and the abnormal electrocardiogram of the hypertensive patient often may show changes back toward the normal in three to six months after the strain has been reduced. One such patient, age 68, with severe protracted, uncontrollable heart failure who improved after cyanate therapy as reported in 1936[1] (case 3) is still very well and active for his age (81) without cardiac treatment but he has had to continue the cyanate therapy for thirteen years with a blood concentration ranging between 8 and 12 mg.

3. Patients having sympathectomies for their hypertension should be offered controlled thiocyanate therapy if annoying symptoms or other manifestations of an unrelieved hypertension are present. Dr. Loyal Davis and I have reported on certain favorable responses to cyanate therapy in patients after their failure to improve or remain functionally efficient after sympathectomy.[6] Such patients recently reviewed six years after sympathectomy appear surprisingly normal, but they require thiocyanate therapy to remain comfortable and/or free from congestive heart failure. An occasional patient, found to be refractory prior to the operation, responded to the cyanates after a sympathectomy. Such observations are without explanation in man or animal.[7] The empirical use of the drug in these postoperative sufferers seems justified in view of such benefits that may be obtained.

4. Chronic glomerular nephritic patients in whom hypertension with gallop rhythm, nocturnal dyspnea, and congestive failure may obtain symptomatic relief and regain circulatory compensation by similar blood concentrations of the thiocyanates. A reduction of the blood pressure from 220/140 to 120/90 has been observed without any measurable decrease of renal functions or aggravation of the nitrogen retention. In fact, a diuresis and an improved blood chemistry pattern may follow such decreases of the workload on the heart.[2] Thus, embarrassed renal function appears to be no contraindication to cyanate therapy but the reduced renal clearance will necessitate a relatively smaller dosage as the blood concentrations will demonstrate.

A few points in the selection of cases of cardiovascular-renal diseases for treatment together with cautions and controls for administration of the drug go a long way in avoiding unsatisfactory results with thiocyanate therapy.

Hypertension where anemia and a high sedimentation rate exist when first seen usually is not benefited by the thiocyanates. In fact, such cases are usually malignant in nature and their progressive anemia and their general deterioration might be aggravated by the drug although such effects are not easily proved.

Doses over 5 grains (0.3 Gm. sulfocyanate) per day are rarely required during the first month. The smallest amount that will relieve symptoms and bring clinical improvement should be used. The reduction of the blood pressure is of secondary importance but if it does fall, the decrease should be gradual. A transient fatigue or exhaustion which will disappear in four to eight weeks may be noted. Reduction of the blood cyanate level to one-half the fatigue concentration for one month may be desirable. Rarely a patient complains of continued severe exhaustion when the thiocyanates are administered; such patients may be better treated by other means.

3. The blood concentration must be determined at frequent intervals during the early months of thiocyanate therapy. A check of the clinical picture, the blood pressure, and a blood thiocyanate determination are recommended each ten days for the first month, each fifteen to twenty days during the next two to three months, and monthly for the remainder of the year. Long intervals of three to six months are permitted depending upon the clinical course and the patient's experience. The blood concentrations of 8 to 12 mg. per 100 cc. are usually necessary although some patients, especially older women, may require only 4 to 5 mg. Initial large doses and failure to check the blood levels constitute one of the chief concerns of cyanate therapy, but failure to attain and maintain a proper level at times explains a lack of success.

4. Sedatives such as the barbiturates, chloral, and bromides are better omitted during the initial weeks of thiocyanate therapy so that symptoms may not be con-

fused or clouded. They may be resumed later if needed.

5. The thiocyanates should be stopped during febrile periods of infections and prior to surgical procedures, both of which alter blood pressure and the renal excretion of the drug. One exception may be made during a vascular crisis with encephalopathy and acute retinopathy when sympathectomy is contemplated. The thiocyanates, 1 Gm. intravenously each day for two to three days, raising the blood concentration to 5 to 8 mg. per 100 cc., may stop the nausea, vomiting, headaches, and gallop rhythm and a period of calm may be held for one month during which the operation may be performed. The drug should be stopped when toxic manifestations or idiosyncracies such as itching, scaling, dermatitis, mental symptoms, anemia, and undue exhaustion are noted. At times the drug may be renewed after two or three months without recurrence of these untoward effects.

6. A diffuse gradual enlargement of the thyroid[15] rarely acute,[12] may be met, but it will return to normal with .5 to 1 grain of thyroid extract daily. The basal metabolism is rarely depressed more than 5 to 15 per cent and I have never observed advanced symptoms or findings of myxedema. The gland will return to normal proportions in one to two months if the drug is stopped, and the hypertension syndrome will return. The resumption of the thiocyanates usually causes no goiter formation as long as the thyroid extract is administered. Certain patients with bloated faces and exhaustion appearing during thiocyanate therapy are often greatly improved by tonic doses of thyroid substance.

7. Elderly persons with arteriosclerosis should be treated with caution because of occasional rapid decreases of blood pressure which may lead to arterial thrombosis. Such patients often have relatively low diastolic pressures and the blood concentration of thiocyanate may rise very rapidly because of poor clearance;[1, 3] hence initial doses of 3 grains daily with blood cyanate determinations at seven to ten day intervals are indicated until the increment of the blood concentration may be projected. Patients aged 60 to 80 often respond especially well and they are greatly appreciative for being freed of their symptoms of headaches, heart consciousness, vertigo, and visual disturbances.

A few of the indications for the use of the thiocyanates in cardiovascular disease have been stressed. I am eager to emphasize that the relief of symptoms and the general clinical improvement of the patient resulting in a more happy, efficient, and productive member of society is the goal of such treatment. The reduction of the blood pressure is of secondary importance even though such pressure changes often parallel the clinical improvement. Perhaps the greatest abuse of thiocyanate therapy has been its casual administration with an over-emphasis of the reading obtained by the blood pressure machine.

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INFANTILE PARALYSIS RECOVERY INCREASED

Improvement in treatment of infantile paralysis resulting from recent research demonstrating that virus damage to the spinal cord and brain areas is often only temporary means that 3 out of 4 infantile paralysis patients can recover without any handicap, Roland H. Berg, staff member of the National Foundation for Infantile Paralysis, writes in the October, 1946, issue of *Hygeia*. Immediate hospitalization and early and continuous physical therapy to maintain muscles in as healthy a condition as possible until normal nerve impulses return has effected the increased possibility for recovery.

NERVE INJURY FROM PENICILLIN

Penicillin may cause injury to the nerves running to the surface of the body with resultant loss of sensation and muscular power, Comdr. Lawrence C. Kolb and Lieut. Comdr. Seymour J. Gray, both of the Medical Corps of the Naval Reserve, suggest in the October 12 issue of *The Journal of the American Medical Association*. Muscular weakness was observed in 7 patients treated with penicillin injections into the muscles, ten to twenty-one days after the initial injection. The number of injections prior to the symptoms varied from ten to seventy-two. Complete recovery from the neuritis occurred within four months in 5 of the 7 patients.

POSTHYPOGLYCEMIC ENCEPHALOPATHY

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Since 1921 the danger from hypoglycemia has been recognized. Wohlwill in 1928 made the first detailed study of brain changes in a diabetic patient dying from insulin shock, and in the same year Ravid summarized 6 cases of transient hypoglycemic hemiplegias reported in the literature to that date including 1 case of his own. McClenahan and Norris, in the first case of benign tumor of the islands of Langerhans with hypoglycemia proved by antemortem blood studies, reported evidences of meningeal and cerebral irritation on postmortem examination. In 1931, the case of a diabetic patient with hemiplegia for many weeks after hypoglycemia was reported, and one year later Bast, Schmidt, and Sevringhaus reported a case of hypoglycemia with neurologic symptoms persisting for five days after adequate feeding was instituted. Wilder,[19] in 1933, wrote: "A feature about this type of coma (hypoglycemia) that is very characteristic is its rapid termination when glucose is administered—but recovery is less certain, less rapid and less complete, even when sugar is given, the longer it persists. Irreversible changes may then occur in the brain: degeneration of the ganglion cells, or hemorrhages as described by Terbrüggen." Since that time the clinical entity posthypoglycemic encephalopathy has been reported under the headings of various synonyms.[12]

Dameshek, Myerson, and Stephenson[4] have shown that the difference in dextrose content between blood drawn from the carotid artery and the internal jugular vein was greater than that between the brachial artery and the basilic vein. Himwich and others[11] have shown that following the administration of insulin, the difference in the dextrose content between the blood drawn from the brachial artery and the jugular vein usually diminished and that the oxygen utilization and metabolic rate of the brain are decreased during severe hypoglycemia. Gerard[7] has reported that the respiration of the brain, namely, oxygen consumption per unit mass, is about thirty times as intense as that of muscle or nerve. That dextrose is essential in normal utilization of oxygen by brain tissue is usually agreed, and it is further generally agreed that acute anoxia or hypoglycemia affects first the cerebral cortex, next the upper portion of the brain stem, and finally the medulla.

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Read before the Section on Pediatrics, State Medical Association of Texas, Annual Session, Galveston, May 8, 1946.

Grayzel[10] reported that rabbits in which hypoglycemia was experimentally produced showed definite central nervous system lesions and that zones of necrobiosis were more noticeable in the pyramidal cells of the third and fifth cortical layers. Other animal experimentation has shown hypoglycemia to produce liquefaction, vacuolization, and homogenization of ganglion cells, marked shrinkage of cytoplasm and nuclei, diminution in number of neurons in various cortical areas, and small microscopic hemorrhages. Baker[3] at first believed that changes found in the ganglion cells on postmortem examination of 3 patients dying after hypoglycemia were caused by postmortem degeneration but in later papers concluded that these were antemortem changes. He subsequently reported extensive brain damage, congestion, hemorrhages, patchy demyelinization, cyst formation, encephalomalacia with necrotic and active proliferation, various degrees of cellular degeneration, and gliosis following hypoglycemia. Similar pathologic observations have been reported by Sahs and Alexander, Kerwin, Weil and others, Root and Styron,[17] Murphy and Purtell,[15] and others. It is generally agreed that it is difficult to distinguish less severe nerve cell changes from postmortem alterations.

Cases of posthypoglycemic encephalopathy have been reported in every age group, as frequently in children as in adults. Rascoff, Beilly, and Jacobi[16] reported a case of hypoglycemia of the newborn with hypertrophy and hyperplasia of the islands of Langerhans, the patient dying thirteen hours after birth from a latent diabetic mother. Although posthypoglycemic encephalopathy, to my knowledge, has not definitely been reported following hypoglycemia of the newborn, it remains a definite possibility to be considered in determining the etiology of mental deficiency states of childhood. Darrow[5] had 2 cases of convulsions and mental deficiency in children following hypoglycemia. A case of transitory hemiplegia associated with hypoglycemia in a diabetic child with congenital heart disease was reported by Fisher.[6] Allan and Crommelin[1] reported the case of a six-year-old diabetic child with an insulin reaction in which the patient was stuporous for three days, followed by hemiplegia, aphasia, and epileptic seizures for fifteen months. The case of an 8-year-old child with idiocy secondary to degenerative lesion of the brain from overdosage of insulin was reported by Wilder.[20] In this case unconsciousness persisted for six weeks, and the mental condition never returned to normal. Anderson[2] had a 7-year-old diabetic patient with a severe behavior disorder following hypogly-

cemia and a 13-year-old diabetic patient with an insulin reaction followed by four days of coma and then gross dementia which gradually but only partially improved during the next fifteen months. Fenz and Kogerer reported the case of a 16-year-old boy in which a severe insulin reaction was followed for a fortnight by a syndrome characterized by negativism, catalepsy, grimacing, and motor restlessness, with subsequent improvement but persistence of apathy and dullness after four months. Terplan[18] also reported the case of a 16-year-old diabetic boy who did not regain consciousness for three days after insulin shock, the blood sugar levels being normal during this three-day interval. In this case postmortem examination showed extreme edema of the brain and destruction of the ganglion cells.

Similar cases have been reported in adults, not only in diabetes,[13] but also following the Sakel form of shock therapy for schizophrenia,[8] and in cases of pancreatic adenoma.[14] The case reported by Root and Styron[17] in which the patient remained in a comatose state for twenty-three days and finally died with terminal bronchopneumonia and sepsis is similar to the second case reported by Jones.[12] A similar case with coma for seventeen days terminating in death was reported by Lawrence and others. Cases with Korsakoff's syndrome persisting for several months after hypoglycemic shock have been seen. Lindsay and others have also reported a case in which a combination of hypoglycemia and arteriosclerosis seemed to cause the cerebral damage. Murphy and Purtell[15] reviewed 26 cases of hypoglycemia with cerebral damage and concluded that the most common aftermath was profound mental and personality damage, at times extensive enough to leave the patient with the intellectual level of idiocy, and at times resulting in mental retardation, apathy, and dullness, progressing to true psychoses. Parkinsonism, aphasia, persistent hemiplegias, and objective neurologic changes have persisted for months.

Goldman[9] reported that 17 per cent of 108 patients given a total of 5,882 insulin shock treatments (Sakel therapy) had posthypoglycemic coma which persisted for some time after the blood sugar levels became normal. He found that the predisposing causes were hard to detect, but that usually after deep hypoglycemic shock and moderately prolonged shock for five or six hours the posthypoglycemic coma was more likely to occur. He concluded: "Coma persisting after cessation of hypoglycemia is an entity in itself and related only in a secondary sense to the hypoglycemia." Thus, in case 1 reported by Jones[12] a state of mental confusion and change in personality, apparently clinical persistence of hypoglycemia, remained for forty-eight hours with high blood sugar levels. The clinical picture was not due to persistent hypoglycemia but to transient cerebral damage caused by the preceding hypoglycemia. In the second case reported by Jones apparent idiocy, aphasia, and neurologic changes remained for eighteen days after the blood sugar returned to normal or high levels. Root[17] pointed out that irreversible cerebral changes will occur sooner or later in hypoglycemia if the hypoglycemia is not properly treated, and stated that: "therefore where unconsciousness occurs, particularly when insulin has been given to a patient already suffering from hypoglycemia, we find it advisable to give intravenous 10 per cent glucose until the patient is conscious."

CONCLUSIONS

Posthypoglycemic encephalopathy is a definite clinical entity reported with increasing frequency in the literature. It is characterized by persistent personality, mental, and neurologic changes following hypoglycemia for variable periods of time. The physiologic and pathologic changes responsible for the clinical behavior are briefly discussed.

Members of the medical profession should be aware of this very serious complication of hypoglycemia and combat any prolonged low blood sugar level vigorously.

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Medical Arts Bldg.

ABSTRACT OF DISCUSSION

Dr. Gladys J. Fashena, Dallas: Dr. Jones has presented an interesting and valuable paper. All of us have known that oxygen is necessary for the cellular integrity of the central nervous system, and that lack of this substance, even for a very short time, will produce cellular damage. Most of us have not appreciated the fact that lack of glucose, the substrate which is oxidized, will produce the same result, nor have we been made sufficiently aware of the tremendous need of brain tissue for glucose as compared with muscle tissue, for example. Apparently the only fuel which the brain can burn is glucose. Peripheral tissues, however, can burn other metabolites, such as fatty acids and ketone bodies, directly.

All of us have probably encountered instances of hypoglycemic encephalopathy, but have been unaware of the mechanisms involved. This entity will probably be of importance, not only in connection with diabetic insulin reactions, but also in connection with other conditions known to produce hypoglycemia, such as hepatic disease, hyperinsulinism, and other forms of pancreatic disease.

VAN METER PRIZE OFFERED FOR 1947

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association in Atlanta, Ga., April 3-5, 1947, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy sent to the corresponding secretary, Dr. T. C. Davison, 207 Doctors Building, Atlanta 3, Ga., not later than January 1, 1947.

A place will be reserved on the program of the annual meeting for presentation of the prize award essay by the author if it is possible for him to attend. The essay will be published in the Annual Proceedings of the Association. This will not prevent its further publication, however, in any journal selected by the author.

To prevent errors in diagnosis, it should be a routine practice not to make a diagnosis of pneumonia, bronchitis, asthma, pleurisy, chest cold, catarrhal fever, or grippe without first considering the possibility of tuberculosis.—I. D. Bobrowitz, M. D., and Ralph E. Dwork, M. D., New England J. Med., Jan. 11, 1946.

SYMPATHECTOMY FOR CERTAIN FORMS OF PERIPHERAL VASCULAR DISEASE

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Until comparatively recent years the treatment of peripheral vascular disease was, in general, somewhat unsatisfactory. The probable explanation for the dilemma was, as Ochsner and DeBakey[15] have already pointed out, that most physicians associated gangrene and peripheral vascular disease too nearly or entirely together. It was not generally appreciated that gangrene represented the terminal stage of a peripheral vascular phenomenon. It has only been since the pathologic physiology of the circulation in this group of diseases has been better understood and methods to differentiate between functional states and organic occlusion have developed that a rational therapy could be instituted.

In all conditions where peripheral vascular disturbances are present, it is necessary to determine if the diminution in the caliber of the vessel is functional or organic in origin or whether it is due to both of these conditions. It is highly probable that both conditions can produce a narrowing in the caliber of the vessel which results in circulatory insufficiency of the extremity which causes the symptoms.

Probably the most satisfactory clinical classification of peripheral vascular disease is that of Ochsner and DeBakey[14] which is based on anatomic and functional disturbances in the vessels: (1) vasospastic functional disease, (2) vasospastic organic disease, and (3) organic degenerative disease.

If the symptoms are caused by lack of a sufficient blood supply to the extremity, it is necessary that the basis of all therapy be directed towards the increase of blood supply to the parts affected. It would seem under these circumstances that any treatment based on other factors is without a rational basis. Since these facts are apparently understood, numerous methods to determine the amount of vasospasm present,[7, 9, 13, 19] the degree of obliterative occlusion present, and the amount of vasospasm present in cases of organic occlusion have been developed; along with these,[5] numerous methods to increase the circulation have also been developed.

It is not possible in this paper to discuss all

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Read by Dr. Hendrick before the Section on Surgery, State Medical Association of Texas, Annual Session, Galveston, Texas, May 8, 1946.

of the various procedures that have been used, but only the ones we have found of value and those practical in our hands will be mentioned.

When the vasospasm is released by interrupting the vasospastic control to the vessels of the extremity, there is a corresponding increase in the arterial circulation which increases the cutaneous heat radiations. We believe that the best index to this heat increase is by palmar palpation before and after operation. The method we have used, however, to determine the increased temperature is with a thermocouple or dermatherm. This probably affords a more accurate determination if, as should be the case in all laboratory procedures, it is carefully executed. The patient should be placed in a room with a constant temperature not greater than 70 F., and the humidity in the room should remain constant. The vasospasm, if present, is relieved by injecting the stellate and first, second, and third thoracic ganglia in case an upper extremity is involved, or the first, second, third, and fourth lumbar ganglia in the case of a lower extremity, with a 1 per cent procaine solution. The temperatures of the extremity, before and after the injections, are recorded with the dermatherm.

This method determines only the increase in the vascularity in the most peripheral part of the extremity. Ochsner and DeBakey,[15] De Takats,[8] and others[4] have found the recording oscillometer of value in determining the increase in the pulsations of the larger vessels of the muscles, but this method is not accurate to determine the pulsations in terminal ends of the digits. However, the pulsations of the digits can be recorded with a plethysmograph. Both of these latter tests are made in conjunction with the dermatherm tests before and after a paravertebral block has been done with a 1 per cent procaine solution. There have been no ill effects[3] from paravertebral blocks in several hundred cases for diagnosis and in certain forms of treatment such as thrombophlebitis and arterial occlusion.

There are a number of factors that generally influence the diagnosis and prognosis in a case of peripheral vascular disease. It seems reasonably clear that the younger the person is with peripheral vascular disease, the more likely the disease is to have a vasospastic basis. The most common factors that precipitate or influence spasticity are exposure to cold, probably the use of tobacco, and emotional stress.

The various vasospastic and allied conditions for which we have used sympathectomy to advantage will be discussed. It is impossible to go into all details at this time, for each condition would compose a long paper.

RAYNAUD'S DISEASE

Raynaud's disease is representative of a functional vasospastic condition. It is more common in women, as shown by Hines and Christeen of the Mayo Clinic, who found 79 per cent of their cases to be in women. People in the third decade are more frequently attacked; exposure to cold and emotional strain are frequent offenders in precipitating an attack.

The symptoms of Raynaud's disease[17] begin with intermittent changes in the color of an extremity. These color changes are not always uniformly symmetrical nor are they always the same on the same extremity. They

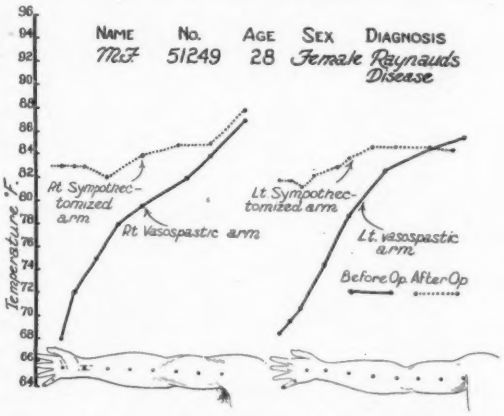

FIG. 1. Graph showing temperature readings of the upper extremities before and after bilateral thoracic sympathectomy in a white woman, age 28, with Raynaud's disease.

vary between blanching and cyanosis. When the latter is present, coldness is also present, giving a numb effect. When the extremity is warmed, a burning, stinging pain develops. As the disease progresses, a dull pain becomes associated with the numbness. The patient is often unable to perform any delicate, manipulative work. The terminal or end arteries are affected in this disease; consequently pulsations in the larger vessels are present. If the disease continues to progress, gangrenous changes develop in the terminal ends of the digits.

CASE REPORTS

CASE 1.—*Raynaud's disease with moderate structural changes in the arteries.* Miss J. M., age 31, occupation stenographer, developed Raynaud's syndrome nine years previously. At intervals her feet during the winter months became cold and clammy. It was necessary that she wear woolen hose during the winter. The symptoms disappeared during the summer unless she became emotionally upset. The condition gradually increased until her feet were cyanosed most of the time; also she had severe burning and a dull ache and was forced to remain indoors

during cold weather or suffer extremely. Small ulcers developed on the second and third toes of the left foot and the second, third, and fourth toes of the right foot.

Examination revealed a well developed, white woman of the nervous type. Radial pulses, and anterior and posterior tibial pulses were full and equal. Blood pressure was 120/80. The feet, when dependent, were cyanosed, cold, and clammy. A bilateral lumbar sympathetic block was done, using 1 per cent procaine solution. One hour later there was marked increase in the skin temperature of the feet and ankles. The skin was dry. A bilateral lumbar sympathectomy was done at ten-day intervals. At the end of two months, the patient returned to her position with no further trouble. Lesions on her toes had completely healed.

CASE 2.—*Raynaud's disease without structural changes of the arteries.* E. G., age 34, a white man, developed symptoms of Raynaud's disease, which were more pronounced in the left foot, three years previously. The disease had progressed to the point of practically incapacitating the patient.

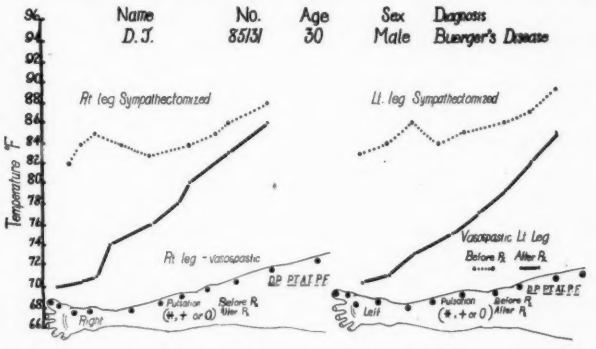

FIG. 2. Graph showing temperature readings of the lower extremities before and after bilateral lumbar sympathectomy in a man, age 30, with Buerger's disease.

Examination showed a well developed, well nourished, white Gentile. All examinations were normal; pulses in wrists and ankles were normal. The feet, toes, and lower legs were cyanosed with cyanosis more pronounced on the left side.

After a bilateral lumbar sympathetic block with 1 per cent procaine solution the skin of the feet and toes became warm and dry. A left lumbar sympathectomy was done resulting in excellent recovery. The patient returned three years later with such marked involvement of the right foot that he requested a right lumbar sympathectomy be done. At that time he was beginning to have involvment of both hands. He had a good convalescence following a right lumbar sympathectomy. In all probability the disease will progress in his hands to the extent that it will necessitate his having a bilateral cervico-thoracic sympathectomy.

THROMBO-ANGIITIS OBLITERANS

In contrast to Raynaud's disease, in the condition of thrombo-angiitis obliterans or Buerger's disease males are more frequently attacked than females. The average age[17] when a large series of cases are analyzed is about 35 years. There are numerous reports of its presence[6] in the "teens."

There is much disagreement regarding the specific etiology of this disease, however; most authorities believe[17, 18] that the use of tobacco plays a definite role, while others believe that toxic infection often precedes the initial attack. Several have shown that the disease will progress from one limb to the other and become intensified in the involved limbs if the use of tobacco is continued. Lewis is of the opinion that the disease is produced by what he termed a "local fault"[12] in the walls of the digital arteries. He stated that he can precipitate an attack after sympathetic innervation has been interrupted.

In Buerger's disease the vessel walls are thickened, and late in the disease there may be extensive scarring which involves the arteries, veins, and nerves in one mass. The primary arteries are often occluded with thrombi, and there is connective tissue proliferation with thickening of the intima. If the thrombus becomes organized and canalization or resolution takes place, the limb may not suffer too much from a lack of circulation. However, if this does not occur, the nutrition of the tissues will have to depend on development of the collaterals. It is in this role that sympathectomy should be of benefit.

The lower extremities are more frequently involved than the upper, and very often at first only one extremity will be affected. The symptoms are most frequently noted following exercise, and since the primary as well as the secondary vessels may be affected, there will be intermittent claudication resulting from an insufficient blood supply. The color changes are noted with posture changes. When the extremity is elevated for several minutes there is pallor and blanching; when it remains dependent there is cyanosis and rubor. Pulsations in the peripheral vessels may be weak, or in cases that have progressed sufficiently they may be entirely absent. At first pain is associated only with exercise. Later it becomes continuous and trophic changes take place ranging from ulceration to gangrene requiring amputation. Aycock and Gundry[2] have divided the disease into four groups, based on the severity of the disease and rate of progress. The cases vary from quite mild ones, indicated by fatigability of the muscles of the affected extremity, coldness, and minor color changes evident during changes in posture, to the fourth group, which develops very rapidly with excruciating pain of claudication, terminating in massive gangrene in a period of one to four months.

Sympathectomy will relieve any spasm in

these cases as well as in cases of arteriosclerosis, and in doing so probably assists in canalization and absorption of the organized thrombus and also in the hopeful development of the collaterals. It is in this group of cases that the results are better manifested after a period of months, apparently because of the factors enumerated above.

CASE 3.—*Buerger's Disease, Grade 2.* D. T., a white Gentile man, 28 years of age, became ill while in the service eighteen months previously. He was discharged with the diagnosis Buerger's disease. He experienced pain in the calf muscles on walking. For the past year he had been treated for rheumatic fever and rheumatism in his feet. The condition was much more severe during cold weather. He had been unable to work as an automobile mechanic for the past six months because of pain in his feet and legs. He smoked thirty cigarets daily.

Examination resulted negatively to the lower extremities, including the heart. Blood pressure was 120/80. Pulsations in anterior and posterior tibial arteries of both feet were very weak. When the feet were dependent both were cyanosed, but they developed pallor when elevated. The skin was cold and moist. Following bilateral lumbar block with 1 per cent procaine solution, both feet became warm and dry and pulsations in the vessels were good. Good moderate elevation in the skin temperature was noted with dermatherm.

Bilateral lumbar sympathectomy was done at ten day intervals. The patient was examined six months later; he had returned to work and suffered no symptoms. His feet were warm and dry.

CASE 4.—*Buerger's disease advanced, amputation of one extremity.* H. W., a white man, Gentile, 38 years of age, occupation electrician, three years previously developed claudication in the calf muscles of both legs. His feet became cold and cyanosed on exertion. He had to sleep in woolen socks. He smoked two packages of cigarets daily. Six weeks before admission to the hospital the patient developed gangrene in the toes of his left foot. The left foot was amputated June 1, 1945. Later it was necessary to amputate through the lower third of the left thigh. The stump did not heal and remained extremely tender and painful. Buerger's disease was also present in the right lower extremity with poor pulsation in the arteries.

A lumbar sympathetic block using 1 per cent procaine solution was done. Good results were obtained in that the foot became warmer and pulsation in the vessels was improved. A bilateral lumbar sympathectomy was done on the left side first, followed three weeks later by the right side. Immediately following the sympathectomy the stump healed and the tenderness and pain disappeared. The right foot became warmer and dry with good pulsation in the vessels. Eight months later the patient was reexamined, showing the right leg to be in good condition, and the left stump produced no further difficulty.

FIG. 3. Photographs of lower extremities in a case of chronic ulceration with lymphedema, before and after bilateral lumbar sympathectomy.

We do not consider that gangliectomy will cure all unfortunate persons in the progressive stages of the disease, but we do believe that this procedure will at least temporarily relieve the symptoms and probably prolong the period before amputation is necessary.

ARTERIOSCLEROTIC CHANGES SIMULATING BUERGER'S DISEASE

There is an older group of patients with arteriosclerotic changes[2, 18] in their lower extremities which produce symptoms that simulate Buerger's disease. In these cases if

there is a moderate degree of spasm present the patient will receive benefit from sympathectomy provided there has not been too much damage to the arteries.

CASE 5.—W. C., a white 52 year old insurance executive, stated that for the past three years he had claudication on exertion, and that he could walk only one or two blocks before developing severe calf muscle pains. His feet were cold and moist.

Examination revealed a normal heart and a blood pressure of 168/96. Albumin in the urine was one plus. There were poor pulsations in the arteries of both feet, and pallor when the feet were elevated, with moderate cyanosis when dependent. Bilateral lumbar sympathetic block using 1 per cent procaine solution was done. There was a moderate increase in skin temperature as recorded with the dermatherm, and the feet were dry and pulsations in the arteries increased.

A bilateral lumbar sympathectomy was done at twenty-one day intervals. Moderate improvement in symptoms was achieved immediately. However, it did not reach its maximum for six months, at which time the patient became practically symptom free. It was probable that at that time the maximum development of the collateral circulation occurred.

CASE 6.—*Arteriosclerosis with diabetic gangrene.* C. L., a white farmer, admitted to the hospital July 27, 1945, was known to have had diabetes for several years. For the past year he had had claudication pains in his calf muscles on exertion. Three weeks before admission to the hospital, he developed pain in the toes of his left foot. Upon admission to the hospital, there was gangrene of the second, third, and fourth toes of the left foot. Both feet were cyanosed when dependent. Pulsations were poor in the arteries of the feet. The affected toes were amputated. The wounds were slow to heal, although the diabetes was controlled. A bilateral lumbar block using procaine solution was done. There was a substantial increase in the skin temperature as determined by the use of the dermatherm; also the feet were dry and the pulsations in the arteries were stronger. A bilateral lumbar sympathectomy was done, the first on the left leg, followed two weeks later on the right. The left foot began to heal immediately after the sympathectomy. The patient was discharged on September 28 in good condition. When he was reexamined at three and six months intervals, there were no further gross symptoms of vascular deficiency of the lower extremities. The patient was working every day.

Frostbite often results in a vascular disturbance of the extremity. If severe, it may result in gangrene of a major part of the extremity. If not so severe, there may be excessive vasospasm with partial invalidism of the patient. If the patient is seen immediately, lumbar sympathetic block using procaine and bromsalizol will, we believe, frequently prevent gangrene. If there are residual symptoms, lumbar sympathectomy will be of definite benefit.

CASE 7.—*Frostbite with gangrene.* A white man, 42 years of age, was admitted to the hospital December 23, 1945. He stated he had been drunk for a week and had slept in an automobile for thirty-six hours. He noticed his feet were asleep afterward, and they soon developed a burning, painful feeling. About forty-eight hours before admission to the hospital the toes on both feet began to turn dark. Upon his admission frostbite gangrene involved the toes and half of both feet. Lumbar sympathetic blocks were done at intervals using procaine and bromsalizol. There was improvement, but on January 11, 1946, it was necessary to amputate parts of all ten toes. There was poor healing of the wounds; the feet were cool and cyanotic. On January 21 and February 4 lumbar sympathectomies were done. At the last sympathectomy it was necessary to amputate all of the fourth toe of the right foot. There was rapid healing following the sympathectomies with good pulsations in the arteries of the feet. If the patient had been seen immediately and had had lumbar sympathetic blocks done, amputations would probably not have been necessary. Further observations and study should be done in order to justify these conclusions.

We believe patients with chronic lymphedema and ulceration of the lower extremities will be relieved if there is marked vasospasm present.

CASE 8.—F. M., a white man, 55 years of age, occupation cook, was admitted to the hospital October 19, 1945. The patient said he had had swollen feet for two to three years with recurrent "bouts" of moist eczema or chronic ulceration. Rest in bed at first would relieve the condition. The patient also had claudication when he would walk three or four blocks.

Examination showed the heart normal and the blood pressure 140/90. Urine and other laboratory specimens were normal. There was an ulcerative dermatitis of both lower extremities with marked edema, cyanosis, and when they were allowed to be dependent poor pulsations in the anterior and posterior tibial arteries. Various medical measures were used without any marked response. Bilateral lumbar sympathetic block with procaine solution gave satisfactory response. On December 10 and January 10 lumbar sympathectomies were done. The patient was discharged February 1 completely relieved. Subsequent examinations revealed complete disappearance of the edema, the ulceration, and the claudication.

In the past a large percentage of patients with thrombophlebitis[11] even after treatment continued to have a large, swollen extremity that was very prone to develop slow healing, trophic ulcers. Ochsner and DeBakey found these patients to have marked fibrosis and vasospasm. Sympathectomy will frequently relieve them to a marked degree.

CASE 9.—C. A. S., a 38 year old white salesman, was admitted to the hospital January 8, 1946. The patient three years previously received a Pott's fracture of the right leg and developed a severe thrombophlebitis during the convalescent period, necessitating removal of the cast. The fracture healed, but since that time the leg had remained swollen, painful, cold, and moist. During the past three months it had been so painful, he had been unable to work.

Upon examination the heart was normal and blood pressure was 120/80. Laboratory tests were normal. The right leg was swollen from the toes to the knee. A large trophic ulcer was present on the anterior surface. When dependent the right leg was cyanosed with poor pulsations in the arteries. A right lumbar block was done using 1 per cent procaine solution. The foot became warm and dry with an increase in the pulsations of the vessels. A right lumbar sympathectomy was done. When the patient was discharged from the hospital on January 23, the foot was warm and dry, the ulcer had healed, and the edema had disappeared. Recent examination

revealed that there was marked improvement with very little edema at the end of the day.

HYPERHIDROSIS OF NERVOUS ORIGIN

Excessive sweating of the hands and feet is occasionally encountered. It is of nervous origin caused by overactivity of the sympathetic nervous system. It may also be noticed in Raynaud's disease, but to a minor degree. Frequently the hands or feet, or in some cases both, are so involved that the patient is practically incapacitated. The involved limbs, in addition to being constantly wet, are cold. Several authorities[1, 2] have made worth-while contributions to this cause. The treatment in the more severe cases is sympathectomy, which will give permanent cure.

CASE 10.—W. C. E., a white, 37 year old farmer, stated that for the past twenty years he had had excessive sweating of his hands and feet. It was necessary for him to wear cotton gloves because his hands would stick to everything he touched. Also, he would have to change his hose several times daily, and he could often pour sweat out of his shoes. During the winter months this caused him to have recurrent colds. Various types of medical measures were tried, including 5 per cent formalin which caused maceration and dermatitis, but with little result. Roentgen therapy was used with little beneficial result.

An examination was entirely negative except for excessive sweating of the hands and feet. A bilateral lumbar block using 1 per cent procaine solution almost relieved the sweating in the feet for forty-eight hours. A bilateral lumbar sympathectomy (removing the second and third lumbar ganglia) was done in stages at one month intervals. The sweating was completely relieved. The feet were warm and dry. A bilateral thoracic block (second, third, and fourth thoracic) using 1 per cent procaine and alcohol, partially relieved the hands.

Various operative techniques have been developed during the past twenty years for sympathectomy of the upper and lower extremities. The technique we use for the lower extremity was that developed by Flothow,[10] Pearl,[16] and Atlas. It is an anterolateral muscle splitting extraperitoneal approach to the lumbar sympathetic chain. The first, second, and third lumbar ganglia can be readily removed. However, removal of the second and third ganglia suffices in most cases. It is contended by some that after removal of the first lumbar ganglia the power of ejaculation is lost by the male, but this is contested by De Takats. There is no disturbance in libido or orgasm.

The technique used to sympathectomize the upper extremity is that developed by Smithwick[20] and consists of removing the first, second, and third thoracic ganglia through a posterior approach. Intratracheal anesthesia should be used with this technique.

If the patient is carefully evaluated before operation and a careful technique followed, there should be marked permanent improvement in the circulation of the extremity, which will be warm and dry.

CONCLUSIONS

The above presentation is not conclusive, but based on our observations it serves as a scaffold for future study. We will welcome constructive criticism and suggestions in what we believe will prove beneficial to a number of ill persons both young and old, particularly the latter group.

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ABSTRACT OF DISCUSSION

Dr. James Greenwood, Houston:—We are fortunate in being able to hear this fine paper, since so little work of its kind has been done in this particular locality. At one time it was my feeling that these conditions were quite rare in the south, but the work of Ochsner and his group in New Orleans would indicate that this is not the case. During the past year I have seen 10 or 12 advanced cases of peripheral vascular disease with imperceptible pulse in the dorsalis pedis arteries. All of these patients gave a history extending over some years, and sympathetic block produced only slight improvement of symptoms: slight warming of the feet, improvement in color, and some lengthening of the walking distance. Diagnosis should have been possible five or ten years ago when sympathectomy would have been likely to succeed.

I would be grateful if Dr. Hendrick would give the exact criteria for surgery, particularly with

regard to age of the patient, degree of peripheral arteriosclerosis, and the amount of response to sympathetic block needed to make one feel sure that surgery is worth while.

Since he has mentioned the effect of sympathectomy in hyperhidrosis I would like to ask Dr. Hendrick if he has had any experience with this operation for causalgia and phantom limb pain. Also does he have any difficulty in getting his patients with vascular spasm to stop smoking?

In regard to operative technique, it was my understanding that removal of the thoracic ganglia, unlike removal of the lumbar ganglia, produced a postganglionic sympathectomy with the result that benefits were not sustained. In 1936, Smithwick reported his modified dorsal sympathectomy for vascular spasm of the upper extremity in *Annals of Surgery*. In this operation the thoracic chain was sectioned below the third ganglion and the gray and white rami to the second and third ganglia were sectioned. Later both ganglia were covered with a silk cylinder and the end of the chain drawn up into the spinal muscles to prevent regeneration. I would like to ask Dr. Hendrick whether he uses this procedure and whether or not he feels that it is necessary.

Few papers could have been more timely for this section of the country, and I feel that all should be grateful to Dr. Hendrick for bringing it to us.

Dr. Hendrick, closing: Patients with peripheral vascular disease are seen equally throughout the country. However, in certain types such as Raynaud's and Buerger's disease, the symptoms are more pronounced when the weather is very cold. If this group of patients is to be relieved and gangrene, amputation, and chronic invalidism are to be prevented, it is necessary that an accurate diagnosis be made early and appropriate sympathetic surgery done before extensive damage has taken place.

If a relatively satisfactory response to a sympathetic block in patients with peripheral arteriosclerosis obliterans can be obtained as manifested by a warmer, dry foot, we believe that sympathectomy will be of definite benefit, as it will assist in the development of the collateral circulation.

For several years we have used sympathectomy for causalgic states, pain of a phantom limb, and certain types of osteoporosis. If the patients with causalgic states are sympathectomized before extensive damage has taken place in the skin, the results are more gratifying. This will be discussed more extensively in a paper this fall before the Southern Medical Association.

It is our belief that patients with chronic obliterative arterial disease should not smoke. We explain to them that if they expect to keep their extremities they must give up smoking; that they cannot have both.

The sympathectomy used for the upper extremity is that developed by Smithwick and reported in the *Annals of Surgery*. By using that type of sympathectomy there is less likelihood of a regeneration.

ANNIVERSARY OF INSULIN DISCOVERY

Twenty-five years ago, on November 14, 1921, Banting and Best, workers at the University of Toronto, reported for the first time the isolation of the substance of the pancreas that had the faculty of lowering the blood sugar and enabling a depancreatized dog to survive for an indefinite period. The first two papers covering the results of their work—the discovery of insulin—were published the following February and May. A celebration under the joint auspices of the University of Toronto and the American Diabetes Association is being held this year to commemorate that discovery.—J. A. M. A., Sept. 14, 1946.

INTRAVASCULAR CLOTTING IN RELATION TO POSTOPERATIVE PULMONARY EMBOLISM

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During the past few years a massive literature has accumulated relating to venous thrombosis. From this literature the practicing surgeon receives varied and sometimes startling advice. A group of the more extreme proponents of early ambulation in the postoperative period will hardly approve if he considers any operation an indication for temporary bed rest. Others report such large numbers of prophylactic femoral vein ligations that he becomes suspicious that this procedure is being performed on inadequate indication. His personal experience with massive pulmonary embolism may have been limited to a few cases but in these the results probably were disastrous. He dreads pulmonary embolism and wants to avoid it but is at a loss in deciding how far to go in this effort. His quandary is shared by the majority of thoughtful surgeons, for there is still great lack of agreement as to the proper and sensible course.

For several years it has been stated that intravascular thrombosis is divisible into two broad types, one inflammatory in origin and the other a spontaneous coagulation. There is some reason to doubt that this classification is entirely sound. One encounters frequent suggestion that the inflamed variety often represents a later stage of the silent one. However, a working classification is useful, and I believe one can afford to agree that at the time thrombosis is discovered it is usually sound to select a form of management based on the presence or absence of inflammation, since inflammation denotes adhesion and an adherent clot is not apt to float away to the lung.

In the inflammatory type—*thrombophlebitis*—an inflamed vein intima is the important factor. The intimal inflammation invites a deposition of platelets and fibrin, and occlusive thrombosis follows. The platelets and fibrin thus coat the resulting clot so that it is a "white clot" and they assure its early attachment to the vein lining. In view of this attachment embolism is unlikely unless the inflammation progresses to actual suppuration when small fragments of liquefied clot may float away to establish metastatic infectious foci in other regions. Short of suppuration, inflammatory signs are ordinarily an assurance that there is little danger of embolism. Actually the chief threat of em-

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bolism in thrombophlebitis appears to lie in danger that the immobilization of the extremities so generally a part of the management of that disease may invite occurrence of another type of clotting in normal veins elsewhere in the same or opposite extremity. This second type of thrombosis is generally referred to as *phlebothrombosis* or "bland" thrombosis and it is with it that a discussion of the dangers of embolism is chiefly concerned.

Phlebothrombosis refers to spontaneous clotting in a theretofore normal vein. The thrombus is a red clot as when spilled blood coagulates. It tends to propagate itself proximally in the venous channel and at each level remains at least for a time nonadherent so that the entire clot or any portion of it may momentarily come loose to float up the cava and enter the right section of the heart and its pulmonary orifices. This then is the clot of massive pulmonary embolism.

In thrombophlebitis the signs of inflammation of the vein ordinarily make the diagnosis simple. In phlebothrombosis, on the contrary, the process is relatively silent and often passes unnoticed. Careful examination is required to elicit a slight tenderness and swelling in a given venous area. Tensing of the muscles of the region may give discomfort as in Homan's sign of calf pain elicited by dorsiflexion of the foot in phlebothrombosis of the calf. Since local and constitutional reaction is minimal the process will be overlooked unless a close examination is made. This emphasizes the importance of routine examination of the lower extremities in bedfast patients.

Phlebothrombosis, or spontaneous intravascular coagulation, presupposes not only an abnormal tendency for the blood to clot but also a degree of venous stasis which permits clotting to be initiated. The newer ideas as to the areas of stasis in which thrombosis commonly originates have been reviewed by Homans[6]. The former conception was that in "milk leg" or iliofemoral thrombosis the clotting began in the iliac vein and progressed distally. The present conception is that the thrombosis has a peripheral origin and that clots in the femoral or iliac veins represent a central propagation from the veins of the leg. Autopsy studies indicate that whereas thrombosis sometimes originates in plantar veins, saphenous veins, or pelvic veins, in the great majority of instances it originates in the deep veins of the calf.

Debility from carcinoma or other cause invites venous stasis and thrombosis as does the natural immobility of the critically ill. Any abnormal concentration of the circulating blood increases its viscosity and favors stagnation and thrombosis. The thromboses of polycythemia are examples of this effect. Shock, dehydration, and exposure to cold cause blood concentration and circulatory retardation, and thrombosis is particularly favored if such patients are permitted to lie immobile for many hours. Slowed circulation from shock, dehydration, and exposure to cold, with immobility during transportation, probably played a part in initiating thrombosis in certain battle casualties in the European theater where massive pulmonary embolism was encountered in an age group ordinarily thought relatively immune. Perhaps soft tissue contusion from blast was an additional factor in some of these wounded.

Obviously any mechanical factor which promotes local venous stasis favors thrombosis. Since intravascular clotting occurs most frequently in the lower extremities, factors which commonly operate to delay venous return from this area are particularly important. It is in the lower extremities that the deleterious circulatory effects of prolonged bed rest may first appear and it is generally stated that the common denominator of cases of calf vein thrombosis is that the patients all have been subjected to the abuses of bed rest. Several mechanical factors aggravate the effect of rest in bed. (1) Lack of active motions of the extremities permits venous stasis to develop. (2) Increased abdominal pressure flattens veins to decrease venous return. Thus abdominal distention or compression by binders may favor thrombosis, as may pregnancy, bladder distention, or other tumors. (3) Decreased respiratory movement retards venous return from the lower extremities. (4) de Takats and Fowler[3] directed attention to the harmful mechanical effects which may result from the customary Fowler's position. They pointed out the tendency for this posture to promote venous stasis in the pelvis, and they particularly opposed flexion of the knees over any form of popliteal support, stating that this converts the bend in the popliteal vein into an acute fold which is actually obstructive.

To minimize the risk of intravascular thrombosis it is necessary both to correct shock, dehydration, and other influences which increase the coagulability of the blood and to avoid measures which favor a retarded venous return. One need not be an enthusiast for the early ambulation of major postoperative cases to grant that bed rest has commonly been prolonged unduly to its abuse (Burch[1]). Many surgeons feel that the principle of early ambulation can be carried to a dangerous extreme. However, it is becoming increasingly clear that with many of

the less critical operations patients can be on their feet several times daily from the start and if caution is used the patient should benefit by such management. In many leading clinics it has become the policy to have patients walking within twenty-four hours after herniorrhaphy and appendectomy and to encourage it after more major operations such as cholecystectomy and gastrectomy (Elman and Akin[5]). In ambulation the patient can still guard himself against postures and strains which are painful and it is becoming the general belief that movements which are within the bounds of comfort seldom injure wounds. Sudden increases in tension which come as a surprise, as in sneezing or coughing, are a much greater threat to wounds than is careful walking. Furthermore, as Singleton[12] has shown, if incisions are planned so as to split muscle and fascial layers in the direction of tension there is little likelihood of disruption occurring even from sudden movements.

When early ambulation appears unwise certain alternate measures are available and particularly important. The patient must turn or be turned. Deep breathing exercises must be practiced. Especially is attention directed to the value of exercising the extremities of bed patients. Periodic contraction of the calf muscles overcomes venous stasis and propels blood toward the heart. Such exercises are much more apt to be carried out if the postoperative orders direct the nurse responsible to require a given number of movements at stated intervals and if the surgeon endorses this to the patient and his family. When the patient's coöperation cannot be obtained passive motions are of value as is upward massage of the calves and elevation of the foot of the bed. The importance of leg exercises in postoperative bed patients was discussed at a recent national surgical meeting and Pearse[11] pointed out that ambulation of itself may not prevent thrombosis since even with early ambulation the patient is in bed for the greater part of the twenty-four hours. Personally I believe that for different reasons the patient's best interests are served by getting him out of bed much sooner than has been customary in the past. However, early ambulation is at best but a partial solution of the problem of thrombosis as it is not applicable in the critically sick or for those restricted to bed by a fracture. Therefore in these patients active and passive bed exercises become particularly important.

From the practical standpoint an increased coagulability of the blood develops to a dangerous extent only in a minority of surgical patients. It is to this minority that special attention should be directed in the prophylaxis of embolism. A simple diagnostic test for early signs of this change in the clotting mechanism is highly desired so that these patients can be singled out from the greater number for special effort and care. The customary tests for clotting time and bleeding time do not reveal the change clearly, and although prothrombin time determinations upon diluted plasma are superior in this regard they have the great disadvantage of requiring particularly skilled laboratory technique. de Takats and Fowler[3] have found a possible solution to the problem in their discovery that patients with increased blood coagulability exhibit a striking diminution in their response to a small dose of heparin and that this test can be done fairly simply. A flat heparin tolerance curve, they find, indicates the presence or imminence of thrombosis, and the normal response can be restored in such patients by therapeutic administration of heparin, dicumarol, and so forth.

In the John Sealy Hospital we are now embarking upon a study of the heparin tolerance curve as an index of blood coagulability. Utilization of some such test should be helpful in detecting a tendency toward thrombosis in its earlier stages. Any complaint of pain or tenderness about the calf in such a patient is suspicious of phlebothrombosis. Once it is suspected that thrombosis has occurred efforts should be made to prevent embolism and to minimize propagation of the thrombus. Proximal vein ligation seems to be a rational step in preventing embolism. It is easily applicable when thrombosis is limited to the calf, that is, when the thigh is not swollen and the femoral vein is not tender. Then it suffices to ligate the femoral vein below the profunda, preferably first opening the vein and aspirating any clot present at that level. Such "superficial femoral" ligation does not produce a significant edema. If the thigh is also swollen, the problem is not so simple. Then for effective protection the ligation should be done above the profunda tributary and such ligation of the "common femoral" occasionally results in persistent edema. Homans[6] believed common iliac ligation safer from the standpoint of collateral venous return, but this ligation is a more formidable procedure. In connection with venous ligation an anticoagulant drug such as heparin or dicumarol can be a helpful adjunct in preventing other thromboses, and the difficulties and dangers attending the use of anticoagulants are gradually being overcome.

If the patient exhibits actual acute tenderness along the femoral vein, probably it is better classed as thrombophlebitis rather than phlebothrombosis. It is the experience

that a tender vein is the seat of an adherent thrombus which may be difficult to dislocate even by suction. In such a patient the greatest danger of embolism has passed and venous ligation is scarcely needed. It is more rational to direct treatment toward overcoming infection with chemotherapy while instituting motion so as to minimize the danger of any red clot propagation. In such cases of femoroiliac phlebitis a chronic persistent edema of the extremity is to be feared, and it is in preventing this troublesome sequel that paravertebral sympathetic block may be dramatically effective (Ochsner and DeBakey[10]).

Pulmonary embolism as a result of phlebothrombosis is now recognized as being more frequent than is its classical form in which a massive embolus obstructs the main pulmonary artery and kills in a matter of minutes. It has been reported frequently that half or more of fatally ill patients live an hour or longer. There is a mounting experience to indicate that many such patients can be saved. An attempt to extract the embolus from the pulmonary artery is usually impractical. That it may be unnecessary is founded upon two realizations. Postmortem records indicate that patients may die from a small embolus obstructing a part of one lung (de Takats and Jesser[4]) since small emboli may initiate reflexly widespread and disastrous spasm of the smooth muscle of the coronary vessels, of the pulmonary vessels, and of the bronchi (de Takats, Beck, and Fenn[2]). This harmful spasm may be abolished by prompt therapy with such drugs as atropine and papaverine, whereas undesired effects may follow administration of morphine, digitalis, or adrenalin. Secondly, many emboli are not fatal at the first insult, and the prevention of a second infarct through eliminating the primary source by proximal venous ligation is practicable in many cases. Within one month overseas I saw two deaths from second emboli, and autopsy examination suggested that both deaths could have been prevented if femoral vein aspiration and ligation had been done in the early hours after the first embolism.

The early recognition of the more common but less typical pulmonary embolism is of great importance. Any sudden onset of chest pain accompanied by shock and respiratory difficulty should raise the question. Placing such a patient in a semi-sitting position, administering oxygen, and giving atropine and papaverine intravenously are forms of emergency treatment which may accomplish much in pulmonary embolism and will seldom do harm if it should prove later that the patient is suffering from some other condition. Careful examination may suggest that phlebothrombosis is present in one or both lower extremities. Femoral vein ligation can be life saving in preventing recurrence and it can even be done at the bedside under local anesthesia and with the patient remaining semi-sitting.

There can be little argument that prevention of venous thrombosis is the better method of attacking the problem of pulmonary embolism. In avoiding the venous stasis which seems all important in initiating intravascular coagulation one can afford to give much thought to the earlier ambulation of postoperative patients and to mobility and bed exercises in the period preceding ambulation. Once thrombosis has occurred and is recognized much depends upon the presence or absence of the signs of inflammation. In the absence of inflammatory signs indicating that the thrombus is adherent the patient's safety is enhanced by proximal vein ligation. Although sometimes phlebothrombosis can be diagnosed, at other times its existence will be merely suspected. There is no general agreement as to the indications for femoral vein division. In borderline cases the individual surgeon must exercise his judgment, resting assured, however, that ligation of one or both femoral veins is a relatively innocuous procedure if it is carried out below the profunda junction.

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ABSTRACT OF DISCUSSIONS

Dr. Elbert H. Caldwell, Tyler: Three per cent of all deaths and 6 per cent of all postoperative deaths are caused by pulmonary embolism. There is a confusion of opinion as to how this mortality can be reduced. In one clinic nearly 500 venous ligations were done while in another of comparable size only 2 were done. Some clinics believe anticoagulant therapy with heparin and dicumarol is the panacea, while others rely entirely on exercise and early ambulation. Dr. Moore has done an admirable job of summarizing and systematizing the present status of the question.

Ninety-three per cent of pulmonary emboli oc-

cur in patients over 40 years of age. The percentage is disproportionately high in patients following pelvic and abdominal operations particularly for malignant disease. I believe all such bad risk patients and patients who show signs of phlebothrombosis should be put on anticoagulant therapy. All such patients should have the foot of the bed elevated 10 inches for twenty-four hours after operation, and active exercises should be started early and persisted in. Early ambulation is a great help in many ways.

I believe venous ligation should be reserved for those patients who have had signs indicating one probable pulmonary embolus. It should be emphasized that thrombophlebitis with local and general signs of inflammation does not call for vein ligation.

Dr. J. W. Hendrick, Baltimore, Md.: Dr. Moore has given an excellent discussion of a very important and timely subject. A few additional points will be stressed.

It was formerly thought intravascular clotting developed only in surgical patients, but when a series of cases are carefully analyzed, it is found that it occurs about as frequently in medical as in surgical patients.

The best treatment for this serious condition is prevention. Patients who are likely candidates for this complication are more carefully observed than the routine. However, in the University Hospital the resident and nursing staff are taught to examine carefully the lower extremities of all surgical patients and medically ill older patients twice daily, to palpate the plantar surface of their feet and their calf muscles, and to note the presence of edema, or dilatation of the superficial veins and the presence of pain in sole or calf muscles. The patients are encouraged to flex and extend their feet and move their lower extremities as much as possible. Any postoperative chest pain is carefully investigated to be sure it is not a pulmonary embolism, as a pulmonary embolism is the first symptom often of a silent venous thrombosis. I am sure it is a good policy to do a bilateral ligation of the vein above the thrombus when a phlebothrombosis is found to be present. It is imperative that this be done as an emergency procedure if the patient has had a nonfatal pulmonary embolism. As a rule, ligation of the superficial femoral veins will take care of most cases.

If the services of a good laboratory are at the doctor's command so that daily prothrombin determinations can be made, dicumarol can be tried. However, if the patient has had a pulmonary embolism, it is safer to do a superficial femoral ligation because the uncontrolled use of dicumarol is dangerous.

Daily determinations of the prothrombin time are necessary; superficial femoral ligation and embolectomy are practically without danger, as has been shown in large series of cases.

RED CROSS CHANGES ORGANIZATION

Fundamental changes in the organizational structure of the American Red Cross, the first major changes since 1905, have been adopted by the present governing body, the Red Cross news service has announced. The revisions, recommended by an advisory committee appointed last March to study the organization of the Red Cross in the light of its tremendous growth in membership and services since the 1905 charter was granted, provide at the national level for greatly increased representation from the chapters and from the public at large on the national governing body, and at the chapter level for participation by the membership in all chapter operations.

VASCULAR INJURIES, PARTICULARLY COMPLICATIONS INFLUENCING THE INCIDENCE OF GANGRENE

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The Surgical Service of the 127th General Hospital while in the European Theater of Operations had a number of interesting vascular injuries with severance of large arteries. We wish to give credit to members of the Surgical Service for the cases used in this report, since the series includes cases operated on by six members of the staff. Although the number of cases, 28, is not large, it appears large enough to make a study of the results beneficial.

Most of us in civilian life had had little experience in ligating large arteries following division or occlusion due to injury, experience being limited for the most part to true aneurysms and occlusions the result of emboli. Since medical school days we had been conscious of the sites at which large arteries may be ligated more safely because of collateral anastomoses. Unfortunately it is impossible to choose the site of injury, and it was observed that in war wounds injured vessels even at preferable locations resulted in gangrene to the extremity in a high percentage of cases. Gangrene occurred much more frequently than we had formerly been led to believe. The percentage of gangrene following ligation of large vessels as stated in textbooks of anatomy and in volume 5 of *Military Surgical Manuals*[1] is much lower than our results show. It is our purpose to show why an injured artery may in one case result in gangrene and in a different case with injury at the same site result in a normal extremity. Apparently the complications associated with vascular injuries of war play the major role in the increased incidence of gangrene.

The complications associated with arterial injuries have been extensive damage to soft tissues, fractures, diffuse, hematomata, and edema. Infection, particularly that caused by the gas baccillus, may be a major complication. However, since the incidence of gangrene in our cases has not been influenced by infection the latter is only mentioned.

The wounds were produced by shell fragments, grenade fragments, mine fragments, and bullets, and were penetrating or perforating in type. The only exception was 1

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case in which the injured artery was caused by a simple fracture of the femur.

In some of our cases the artery was completely divided and in others the division was only partial. In 1 case there was a perforating wound of the artery with a lateral wound on each side. In those cases in which the artery was severed by a large rough missile, such as a grenade segment, and there was an associated extensive lacerated wound, the ends of the divided artery were retracted and there was an obstructing clot in each end. Extensive soft tissue damage has a tendency to promote rapid clotting thereby preventing fatal hemorrhage. In such cases, however, the muscular collateral branches may be damaged to such an extent that gangrene results. The same is true when bone is badly comminuted by the missile, the bone fragments injuring surrounding muscle tissue and arterial branches. A bullet usually causes little soft tissue damage, unless the missile strikes bone. A bullet wound through is completely occluded. Such was true in 1 case in which the femoral artery injury was in association with a compound comminuted fracture of the femur produced by a bullet, and is assumed to be true in 2 other similar cases.

The treatment of wounds of large arteries was according to direction of the *Manual of Therapy* of the European Theater of Operations[2]. When the artery was completely severed the proximal and distal stumps were doubly ligated. The companion vein was divided and both stumps ligated in like manner regardless of whether or not there was an associated injury to the vein. The resulting congestion increases the volume of the capillary bed distally. If the artery was only partially divided or was contused with thrombosis, it was cut across and both stumps doubly ligated along with the companion vein as described above. The thrombosed portion of the artery was excised.

It was our policy to expose large arteries

TABLE 1.—*Superficial Femoral Artery—Ligation or Occlusion.*

Case	Bone Damage	Soft Tissue Damage	Hematoma	Edema	Line of Demarcation of Gangrene on Skin
J. G.	None	+	+	+	None
*C. O.	None	+	+ + +	+	None
J. P.	None	+	+	+	None
*A. H.	None	+	+	+	None
R. D.	None	+	+	+	None
J. H.	None	+	+	+	None
J. J.	None	+ + + +	+ +	+ + + +	Junction of middle and upper one-third
G. S.	FCC Femur	+ +	+ +	+ +	Middle of leg
S. L.	FCC Femur	+ +	+ +	+ +	Junction of middle and lower one-third
V. S.	FCC Femur	+ + +	+ +	+ +	Junction of middle and upper one-third
L. K.	FCC Femur	+ + +	+ + +	+ + +	Middle of leg
E. C.	FS Femur	+ +	+ + +	+ +	Just below knee

*False aneurysm

a large artery causes a hematoma since the small wounds of entrance and exit in the soft tissue do not as a rule permit free external hemorrhage. The size of the hematoma will depend on the ease with which blood can penetrate the intermuscular spaces and fascial planes. The hematoma may increase in size until it interferes with circulation of the extremity so much that gangrene results if the pressure is not relieved. The formation of a pulsating hematoma or false aneurysm may be delayed for several weeks following the arterial injury, it being detected after increased activity with rise in blood pressure or slight trauma over the area. Such a hematoma usually pulsates and a murmur is frequently heard on auscultation.

It is stated that a large artery may be completely occluded by actual spasm resulting from trauma to structures about the vessel. Undoubtedly arterial spasm to some degree is present in areas of trauma. Isolation of a large artery such as the femoral with passage of tape about it at times produces definite constriction at the site of the tape. There is probably a contusion of the arterial wall with some thrombosis when the lumen proximal to the site of injury by a separate incision before exploring the wound in order to control hemorrhage. Umbilical tape was passed around the artery, but was not tied. With the aid of the tape digital pressure could be applied at any time needed. Pulsating hematomata were approached directly only after the artery had been exposed proximally.

Most of the patients did not reach us less than eight hours following the time of injury. Although they had had plasma and in some instances blood, they showed some degree of shock. Shock was treated with plasma and blood, and as soon as the patient's condition warranted it, operation was done. Shock therapy was continued postoperatively as indicated. The patient was kept warm, but no heat was applied directly to the extremity. Paravertebral sympathetic block was done and was repeated when it was thought there was improvement.

We had little difficulty in deciding whether or not an extremity would live. If when first seen there was absent pulsation, together with coldness and blanching of the skin, gangrene later developed. If the circulation to

the extremity appeared adequate, no gangrene developed following operation. The operation did not change the level of viability to any demonstrable degree. Neither did we see paravertebral sympathetic block prevent gangrene in an extremity with inadequate circulation. We did no primary amputations. It was our policy to delay amputations for several weeks when a definite line of demarcation on the skin was present. This line of demarcation, however, is no indication that the underlying muscles and bone are viable at the same level. The skin is usually viable at a much lower level than the underlying structures. If gangrene of the skin reaches the junction of the middle and upper third of the leg there will be little viability of muscular tissue below the knee.

In table 1 are listed the cases with injury to the superficial femoral artery in which the artery was ligated or occluded. Sudden division of the superficial femoral artery or its ligation for traumatic aneurysm resulted in gangrene only if the profunda femoris area was badly damaged. Such damage of the profunda femoris area was regular with comminuted fractures of the femur but gangrene occurred only once from soft tissue damage in the absence of fracture. This patient, J. J., had an extensive lacerated wound of the anterior and lateral surfaces of the proximal one-half of the thigh with great loss of skin and muscle which was sustained when he threw himself on a grenade which had been placed on the ground as a booby trap. There was complete division of the superficial femoral artery, 1 cm. distal to the origin of the profunda femoris and there were multiple grenade segments as foreign bodies throughout the muscular tissue. The line of demarcation of gangrene on the skin was at the junction of the middle and upper one-third of the leg. However, when amputation was done one month after injury, it was necessary to do a supracondylar amputation because the underlying muscles and bones were not viable below the knee. It was always necessary to amputate the extremity at a higher level than the line of demarcation of gangrene on the skin indicated.

TABLE 2.—*Popliteal Artery—Ligation or Occlusion.*

Case	Bone Damage	Soft Tissue Damage	Hematoma	Edema	Line of Demarcation of Gangrene on Skin
W. B.	None	++	++	+	Junction of middle and lower one-third
W. R.	None	+	+++	+	Junction of middle and lower one-third
L. C.	None	++	+++	+	Junction of middle and upper one-third
H. D.	None	+++	++	++	Junction of middle and upper one-third
H. K.	FCC Tibia and Fibula	+++	++	+++	Junction of middle and upper one-third
C. W.	None	++++	+++	++	Junction of middle and upper one-third

Two cases of the superficial femoral artery group had false aneurysms. One was ligated twenty-five days after injury and the other two days following injury.

Table 2 shows the discouraging results with sudden division of the popliteal artery. All of our 6 cases resulted in gangrene. There was 1 patient with a false aneurysm of the popliteal artery, whose case is listed in table 3, who had no gangrene of the extremity. Because of our experience and the experience of others with popliteal ligation we believed that operation should be delayed a month in hope that better collateral circulation would be established. The patient was sent by air to the United States.

In table 3, patients with injuries of the common femoral, profunda femoris, posterior tibial, axillary, and carotid arteries are listed. There are not enough cases in these groups to make the results valuable.

TABLE 3.—*Arterial Division or Occlusion.*

Case	Artery	Bone Damage	Soft Tissue Damage	Hematoma	Edema	Line of Demarcation of Gangrene on Skin
J. C.	Common femoral	None	+	+	+	Middle of leg
*D. C.	Profunda femoris	None	+	++++	+	None
*L. P.	Popliteal	None	+		+	None
J. R.	Posterior tibial	FCC Tibia and Fibula	+++	+	+++	None
*P. R.	Posterior tibial	None	++	+	+	Great toe, lateral
*H. H.	Posterior tibial	None	+++	++	+++	and plantar surface
*L. I.	Axillary	None	++	++	++	None
*B. P.	Axillary	None	++	+	+	None
R. R.	Axillary	FCC Scapula	+++	+	++	Finger tips
*P. S.	Carotid	None	+	+	+	Good result

*False aneurysm

The only case of common femoral artery division resulted in gangrene. The 5 cases reported by Rose, Hess and Welch[3] also resulted in gangrene. They observed, however, that the line of demarcation of gangrene was at a much lower level in common femoral artery division than in superficial femoral artery division.

The profunda femoris artery was ligated in 1 case because of a large pulsating hema-

toma secondary to a gun shot wound received sixty-five days previously.

The posterior tibial artery was ligated in 2 cases with good results. In 1, the division of the artery was associated with a compound comminuted fracture of the tibia and the fibula, and in the second case the ligation was done because of a false aneurysm. The third patient with posterior tibial artery injury had a false aneurysm apparently above the peroneal. He had had marked soft tissue damage and there was marked edema with infection. There was dry gangrene on the lateral and plantar surfaces of the great toe. This patient was seen by us nineteen days following injury. After chemotherapy and blood transfusions he was evacuated to the United States without ligation of the artery.

Two cases of ligation of the axillary artery between the circumflex humeral and the profunda brachii branches did not result in gangrene. There was a false aneurysm in each case. One artery was ligated ten days after injury, and the other sixty-six days following injury. One patient evacuated to us after division and ligation of the first part of the axillary resulted in gangrene of the finger tips but the wound had been packed and the axillary incision made in such a way as to impair collateral circulation.

There was one arterio-venous aneurysm involving the carotid artery and jugular vein caused by a grenade fragment which was successfully excised with ligation of the artery and vein.

Table 4 shows the relationship between arterial ligation or occlusion and gangrene with comparison of statistics given in *Military Surgical Manual*, volume 5. It can readily

TABLE 4.—*Relationship between Arterial Ligation or Occlusion and Gangrene.*

Artery Ligated or Occluded	From Military Surgical Manual, Vol. 5 Gangrene Per Cent	127th General Hospital Gangrene Per Cent	Number of Cases
Common Femoral	21	100	1
Superficial Femoral	10	50	12
With fracture		100	5
Without fracture		14.28	7
Popliteal	0	100	6
Profunda Femoral		0	1
Posterior Tibial			
With fracture, both bones	50	0	1
Without fracture	3	50 (great toe)	2
Axillary			
Below circumflex humeral	9	0	2
First portion	0	100 (finger tips)	1

be seen that when major arteries are injured in association with wounds of modern warfare, the prognosis for survival of extremities is not a good one. The increased incidence of gangrene in war wounds is caused by marked soft tissue damage either alone or in association with fractures. Such damage greatly impairs collateral circulation with gangrene resulting.

SUMMARY

Twenty-eight cases of injuries to major arteries are presented. Twelve cases of sudden interruption of the superficial femoral artery or its ligation for traumatic aneurysm resulted in gangrene only if the profunda femoris area was badly damaged. Gangrene occurred in 6 of these cases but in 5 of the 6 cases there was an associated comminuted fracture of the femur. In 7 cases without fracture gangrene occurred only once.

Six cases of sudden popliteal artery division resulted in gangrene.

The only case of common femoral artery division resulted in gangrene.

Two cases of ligation of the axillary artery between the circumflex humeral and profunda brachii branches did not result in gangrene.

Ligation of the posterior tibial artery was tolerated well.

Lumbar sympathetic block may have possibly influenced the level of gangrene in the lower extremity but in no instance did it seem to influence the occurrence of gangrene.

Of the 9 traumatic aneurysms of large vessels 8 were arterial and only 1 was arterio-venous.

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ABSTRACT OF DISCUSSIONS

Dr. Robert S. Sparkman, Dallas: Figures are now available regarding the incidence and types of vascular injuries sustained in World War II, and the nature and frequency of complications which ensued. It is interesting to see how closely the observations and statistics of other writers coincide with those reported by Drs. Thomas and Pittman.

Acute injuries of major arterial pathways occurred in approximately 1 per cent of all casualties. Fifty per cent of all arterial injuries of the lower extremity were complicated by gangrene requiring amputation, as contrasted with 25 per cent for the upper extremity. The highest incidence of gangrene was seen in popliteal injuries, where amputation was performed in 72.5 per cent of cases. Injuries of the common femoral or common iliac were each associated with an amputation rate of 53 per cent. These figures are based on a consideration of acute arterial injuries only and do not include the late manifestations of arterial injuries such as aneurysm.

All available statistics showed clearly that the incidence of amputation in all types of arterial injuries was distinctly higher where there was associated fracture. This difference was more striking in the upper extremity than in the lower, and was least apparent in injuries of the popliteal artery where the incidence of the gangrene was high, regardless of other factors. For example, in injuries of the brachial artery without fracture the incidence of amputation was 11 per cent, as contrasted with 30 per cent in the group with fracture. On the other hand, popliteal injuries without fracture showed an incidence of gangrene of 67 per

cent as contrasted with 75 per cent in the group associated with fracture.

An analysis of more than 3,000 amputations from the European theater showed that only 12 per cent were the result of clostridial myositis or other serious infection, the remaining 88 per cent being necessitated by vascular injury alone (19 per cent) or by extensive trauma (69 per cent), which obviously implies a high degree of vascular injury.

The combined statistics and observations of surgeons reporting from all theaters on experiences with arterial injuries have been reviewed by DePakey and Simeone, who reached the following conclusions: "The location and type of injury determine above everything else what the surgeon can do. The great majority of the wounds in World War II were produced by shell fragments, were large, were associated with extensive destruction of tissue, and were not favorably located. As a result, the vitality of the limb was gravely impaired before the surgeons ever saw most of the patients, thus jeopardizing the potential benefits of any therapeutic procedures employed. Infection is perhaps the least important of the limitations imposed by the circumstances of modern warfare . . . It is not infection, but the other circumstances just outlined, which now prevent reparative procedures in most battle injuries of the blood vessels."

Other significant factors in the causation of gangrene to which these authors draw attention are the inevitable time lag between injury and operation, and the amount of blood which the patient has lost. Twenty-seven patients with arterial injury, thought to have received blood in adequate amounts, were studied a week after injury and were found to have an average red blood count of 2.7 million and hemoglobin of 60 per cent. It is obvious that reduction of circulating blood volume will be associated with reduction of circulation through the distal portion of the injured extremity.

I wish to call attention to one point of particular interest in the report by Drs. Thomas and Pittman. It is possible to separate their 28 cases into two groups—a group of 9 cases in which aneurysm was present, and a group of 19 cases in which the lesion was an acute arterial injury. Whereas in the latter group the overall incidence of gangrene was 75 per cent, it is noteworthy that in none of the cases of aneurysm was there any instance of gangrene, regardless of the artery involved. Elkin and Schumacher operated upon 595 consecutive cases of aneurysm with only 1 case of gangrene following operation. This experience has been so uniform as to provoke the statement that the best safeguard for the survival of a limb is for an acute arterial wound to develop into an aneurysm. This is not to be construed as a recommendation that arterial injuries be treated conservatively, since this would imply omission of the fundamental procedure of debridement. Moreover, the development of an aneurysm is often a late manifestation in a wound in which arterial injury was not suspected.

Dr. Robert M. Moore, Galveston: We have all realized that the extent of accompanying local injuries has a great bearing upon the incidence of gangrene following the interruption of trunk arteries. Drs. Thomas and Pittman have illustrated this clearly and have shown, moreover, that in the thigh a specific injury, comminuted fracture of the femoral shaft, is particularly important. It is not unusual that a missile which divides the femoral artery below the profunda femoris branch also strikes the shaft of the femur to cause comminution. If the displacement of the bone fragments is at all extensive, the laceration of adjacent tissues including the branchings of the profunda femoris will be so severe as to amount to a division of the profunda artery, at least as regards the transportation of blood toward the tissues distal to the knee. From a practical standpoint such a patient has suffered division of both of the main arterial trunks of the thigh, and the incidence of gangrene will be exceedingly high just as when the popliteal artery is divided. Since, as shown by Drs. Thomas and Pittman, the incidence of gangrene from division of the femoral artery below the profunda is quite low in the absence of fracture, it is my belief that the relationship is so important that the two conditions should be classed as distinct injuries, and that all reports of the incidence of gangrene from femoral artery division should distinguish between cases in which the femur is fractured and those in which it is not.

ANESTHESIA FOR CESAREAN SECTION

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The present day technique for cesarean section is not devised for use when the mother is in a state of "articulo mortis," but as a life saving procedure for both the mother and the child. Anesthesia has played a prominent part in the accomplishment of this fact. Unfortunately, respiratory and circulatory depression of either the mother or the child (or both) is one of the prices that are frequently paid for adequate relief of pain. These hazards are often evolved with the misuse of volatile and nonvolatile drugs.

For practical purposes it may be assumed that prenatal complications including the mother and/or the fetus are present because these complications are usually the indications for surgical intervention. On this basis, it is the obligation of the obstetrician and the anesthesiologist to coöperate in the management of the case so that all obstetric difficulties may receive due consideration.

A review of 120 consecutive cesarean sections conducted during inhalation anesthesia has been made to estimate the morbid effects of pain relief.* Before induction of anesthesia the operating room, equipment, and staff were in readiness. The surgeons were scrubbed and the patient's abdomen was prepared. Sterile drapes were placed as soon as the patient was anesthetized. This routine was established because the duration of administration of the anesthetic drug and the depth of anesthesia maintained determine the amount of tissue saturation, which in turn determines the degree of volatile drug depression of the baby.

Cyclopropane, by the to and fro absorption technique, was used in 114 of the cases. For cesarean section cyclopropane may be con-

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*Cases from the State of Wisconsin General Hospital, Madison.

sidered the optimum drug of the inhalation family for several reasons. It is pleasant, nonirritating, and rapid in action. These factors are important in the management of the apprehensive patient who is permitted no preoperative sedation other than atropine or scopolamine. As the induction is rapid, there is a minimum of excitement, retching, and mucus secretion. This is essential because the excited patient requires a much heavier dose of the anesthetic drug, and excess mucus interferes with adequate respiratory exchange. A minimum of anesthesia, an adequate airway, and good respiratory exchange provide a satisfactory surgical field. For low cervical section only, is it necessary to worry about relaxation of the abdominal muscles. As resection of old scars and adhesions require time, most obstetricians are willing to omit this procedure until after delivery of the infant, unless it is necessary in order to obtain an adequate exposure.

When the obstetrician begins to open the body of the uterus, the anesthetic gases are immediately expelled from the breathing system to guard against excess tissue saturation. One hundred per cent oxygen is substituted and the mother's respiration is controlled by gentle pressure on the breathing bag until the baby is delivered and the cord clamped. Positive pressure control of respiration is necessary because with the reduction of the concentration of the anesthetic agent the plane of anesthesia approaches the reactionary stage; and if the patient is permitted to hold her breath, vomiting may follow immediately. As soon as the cord is clamped, the administration of the anesthetic drug is resumed and surgical anesthesia maintained for the completion of the operation.

TABLE 1.—*Indication for Cesarean Section.*

Dystocia	91
Funnel Contracted Pelvis	
Cephalopelvic Disproportion	
Previous Section	
Sterilization	2
Toxemia	9
Cardiac or Cardiovascular-renal Disease	5
Hemorrhage	10
Placenta Previa	
Premature Separation	
Ruptured Uterus	
Welfare of Baby	3
Elderly Primipara	
Uterine Inertia	

Oxygen can be supplied to the mother and fetus in as high concentrations as desired. This is essential not only to the viability of the fetus but is often mandatory in cases of toxemia, anemia, cardiac disease, or where there is unusual blood loss.

Contrary to general opinion, cyclopropane, if expertly used, can be safely administered to the patient with borderline cardiac decompensation or auricular fibrillation. Many of these patients seem to improve when anesthetized with cyclopropane if the induction is without stress or strain. This condition is possibly due to the availability of an excess of oxygen. On the other hand careless administration of cyclopropane may be rapidly fatal to even the most healthy person.

DISCUSSION

In the present series, cesarean section was the elected technique in approximately 5.5 per cent of the obstetrical admissions. There were 99 classical, 10 low cervical, and 11 radical sections. The indications for these sections are listed in table 1.

TABLE 2.—*Maternal Postoperative Complications*

Death	1
Arrhythmia or Tachycardia	3
Marked Blood Pressure Fall	1
Bronchopneumonia	1
Cystitis or Retention	4
Nausea and Emesis	11
Distention	7
Ileus	1

Among the postoperative maternal complications (table 2) there was 1 maternal death. This occurred four hours after the operation. The patient had a cretin pelvis and presented an extreme toxemia of pregnancy. The baby weighed four pounds two ounces and after five minutes of resuscitative measures, lived and regained its birth weight within one week. Three instances of arrhythmia or tachycardia and 1 of severe blood pressure fall occurred after section in which there was severe hemorrhage. Bronchopneumonia was present in 1 patient three days after a section was done because of a ruptured uterus. In this case there was a question of debility and an inadequate pulmonary ventilation.

Among the neonatal complications listed in table 3, there were 3 deaths. Two infants were of mothers having severe toxemia and 1 was a six weeks premature infant that showed syphilitic involvement. Eleven infants required artificial respiration with oxygen and tracheobronchial toilet to assure viability. One was of premature birth and 3 of toxic mothers. The remaining 8 appeared to have either serious respiratory or circulatory depression, although fetal distress was not evident during the prenatal or parturition

TABLE 3.—*Neonatal Complications.*

Death	3
Artificial Respiration Necessary	11
Delayed Cry	
Respiratory Obstruction	9
Sleepy	14

period. One exception was a child whose mother had received 5 grains of barbital and .01 grain of scopolamine before delivery. The anesthetic drug cannot be considered free from blame in these 8 cases or in the 14 sleepy babies who responded satisfactorily without artificial respiration.

For preoperative sedation scopolamine was used in 91 instances and atropine in 21. There seemed to be no depression directly attributable to the scopolamine except in the case where it was combined with barbital.

The postoperative maternal and neonatal morbidity in this series leaves much to be desired even though it compares favorably with reports by authors using different drugs and techniques.[1, 2, 3, 4, 5, 6, 7]

Many obstetricians, lacking the services of a trained anesthesiologist, must of necessity use spinal anesthesia and, therefore, become adept in its use. Those who obtain the lowest mortality and morbidity rates do so by using small amounts of a relatively nontoxic drug such as procaine. The patients are observed carefully during the procedure for respiratory and circulatory depression. Oxygen for respiratory depression, intravenous fluids and oxygen for circulatory depression and vasopressor drugs for severe blood pressure falls tend to save the mother from serious complications. The mother who barely survives the complications of spinal anesthesia is not necessarily a good recommendation for its use.

Torrie,[7] who reported a series of 120 sections under spinal anesthesia with satisfactory results, pointed out three hazards that may lead to serious difficulties: (1) The level of anesthesia ascends higher than expected and is more difficult to control if the patient is having hard uterine contractions. (2) The blood pressure level is more likely to drop. A serious drop may impose the deleterious effects of hypoxia on both mother and fetus. (3) The respiration of the patient is more easily depressed if the anesthesia ascends above the level of the xiphoid.

SUMMARY

The favorable results in this cyclopropane series may be attributed to four essential factors: (1) The coöperation of the obstetrician and anesthesiologist in preparing the patient before the administration of the anesthetic begins. (2) The control of the anesthetic drugs which are rapidly effective and immediately reversible, adequate oxygenation, and effective elimination of carbon dioxide. (3) Prompt delivery of the infant soon after the mother is anesthetized. (4) The presence of trained persons who are competent to care for the infant during the first few minutes after delivery.

CONCLUSION

Cyclopropane anesthesia, expertly administered, has the advantage of minute to minute control which tends to limit postoperative depression of respiration and circulation. This may commend its use for cesarean section.

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ABSTRACT OF DISCUSSION

Dr. Nicholson J. Eastman, Baltimore: I have listened with much interest to Dr. Allen as he talked and I mulled over in my mind our experiences with various anesthetic agents. It seems to me we have no complete 100 per cent agent that is applicable for all patients; we must pick and choose. Dr. Allen implied a trained physician anesthetist is necessary for the administration of cyclopropane. The border line is small for safety. He cited the objection of the behavior of cardiac cases. I would like to cite our experience: one patient after another experienced arrhythmia. We were afraid before of cyclopropane in heart cases for that reason. In trained physicians' hands it may be quite satisfactory. Those who use it claim excellent results. High blood pressure cases are extremely vulnerable to falls; with low blood pressure, the objection is obvious. I have seen few cases of dead babies with spinal anesthesia. I have seen the blood pressure fall extremely low and, in spite of the administration of ephedrine, stay low. There is another anesthetic agent that is scarcely ever mentioned in textbooks which I would like to cite at least for consideration because we have had such gratifying experience with it. It is intravenous sodium pentothal. Most obstetricians are afraid of it because they think it has a deleterious effect on the baby. We have found that pentothal is being used more and more and have to date delivered 3,000 patients with it and low forceps. We have done 250 cesarean sections with it. It has definite advantages in that the patient wakes very promptly with no signs of nausea and has a very pleasant period following regaining of consciousness. Following cesarean section it stands between ether and spinal anesthesia since it gives more relaxation than spinal and less than ether. The results for the baby are excellent and I have used it for years in my private practice. With cesarean section we do find that it is desirable to get the patient draped and prepared before starting the pentothal so that the duration is as short as possible for the delivery of the baby.

Any one who reviews the literature finds that every year a substantial number of mothers die and even sometimes as the direct result of anesthesia. It is one of the problems that faces us. Some patients do not take anesthesia well and we are indebted to the essayist for bringing before us this important paper.

Dr. Allen, closing: I wish to thank Dr. Eastman for his very well put points and I certainly agree

with him that there is no 100 per cent agent for cesarean section. After all, it is more important that the agent be the one best known to the administrator and the technique the one he knows best.

In regard to the cardiac arrhythmia that may occur under cyclopropane anesthesia: I think I will stay out of this discussion at the present time. However, we do not feel it is a contraindication and we are gradually accumulating real evidence for our belief. Adrenalin should not be injected intravenously during cyclopropane anesthesia. In the hypertensive the fall in pressure in spinal anesthesia may be very marked. If there is watchful waiting at the head of the table and an open airway all the time, sodium pentothal may be quite satisfactory.

INTRACRANIAL AIR STUDIES IN INFANTS AND CHILDREN

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The value of pneumo-encephalography and ventriculography in the differential diagnosis and localization of intracranial lesions is generally recognized today, as are their limitations and dangers. Apparently the pendulum of opinion has receded from the extreme of injudicious over-use of these procedures which, through the inevitable mishaps that followed, led in turn to avoidance of their use even when indicated. There was a period, indeed, during which some institutions were required to perform these examinations as part of their routine workup for obvious mental defectives!

In the pediatric age group, intracranial pneumograms may often help fill the gaps in the clinical picture which occur in case histories that are incomplete subjectively and even objectively. Parents' information is not always satisfying with respect to the normal development of their children and the significant deviations therefrom. Information from the children themselves is usually incomplete or unreliable. It is not to be inferred, however, that the complete neurological examination cannot diagnose and localize intracranial lesions in most cases, but rather that the pneumogram offers a degree of reliability, safety, simplicity, and accuracy not yet approached by electro-encephalography or arteriography in children.

The usual precautions involved in the procedure are even more worthy of emphasis for children than for adults, due in part to the preponderance of subtentorial over supratentorial tumors in the ages up to 16 years. Before encephalography is attempted, intracranial pressure should be determined as normal, or at worst only slightly elevated; in cases of doubt as to pressure or type and location of a suspected intracranial lesion, the safety valve of a T-needle in a lateral ventricle might be used. Ventriculograms, too, are not without danger, but are probably preferable in most instances. However, they do not help in the study of the subarachnoid pathways or the basal cisterns, and these often hold the key to the diagnosis.

One satisfying result of the pneumogram has been the reduction in the number of simple decompressions performed, as opposed to more specific operations or radiotherapy. Brain injuries caused by herniation through decompression openings have been noted, indicating that the procedure is not without danger.[6]

A review of histologically proven intracranial lesions for the past five years at John Sealy Hospital discloses no significant de-

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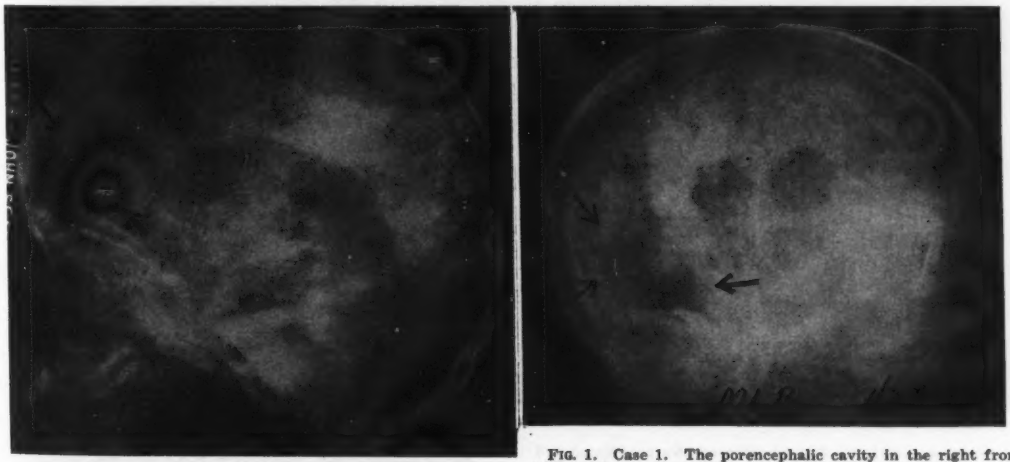

FIG. 1. Case 1. The porencephalic cavity in the right frontal lobe is shown (arrows) in lateral (left) and frontal (right) views. The sagittal and coronal sutures are separated.

FIG. 2. Case 2. Lateral and frontal views show enormous ventricular enlargement without displacement. The large tumor mass (arrows) is clearly seen on the left. Convolutional markings on the inner table are prominent, consistent with increased intracranial pressure.

viations from the types and percentages of lesions in other general hospitals with a neurosurgical service.[1, 3] Among the tumors, the subtentorial ones have been most frequent, and there have been such other lesions as congenital internal hydrocephalus, abscess, subdural hematoma, localized and generalized cortical atrophy, porencephaly, and a scattering of the rarer entities. One exception to the expected incidence of neoplasm has been the absence of craniopharyngioma during this period.

The material of this presentation is intended to demonstrate the diagnostic significance of pneumograms for cases in which the clinical diagnosis was confirmed or modified. It is not an expression of statistical incidence of intracranial lesions found here.

CASE REPORTS

CASE 1.—A white, 20 months old girl was brought to the hospital by a social worker. There was no adequate history ever obtained, except for a questionable one of trauma to the head. The duration of the observed conditions was described as "recent."

Physical Examinations.—This baby was well developed and well nourished, but held her limbs in spastic extension, her head and eyes to the left, showed no sign of recognition of her environment, and had increased deep reflexes bilaterally. Her head was enlarged, with a positive MacEwen sign.

Roentgen Studies.—Skull roentgenograms displayed suture separation and enlargement of the calvarium, indicating increased intracranial pressure. An encephalogram (Fig. 1) revealed a moder-

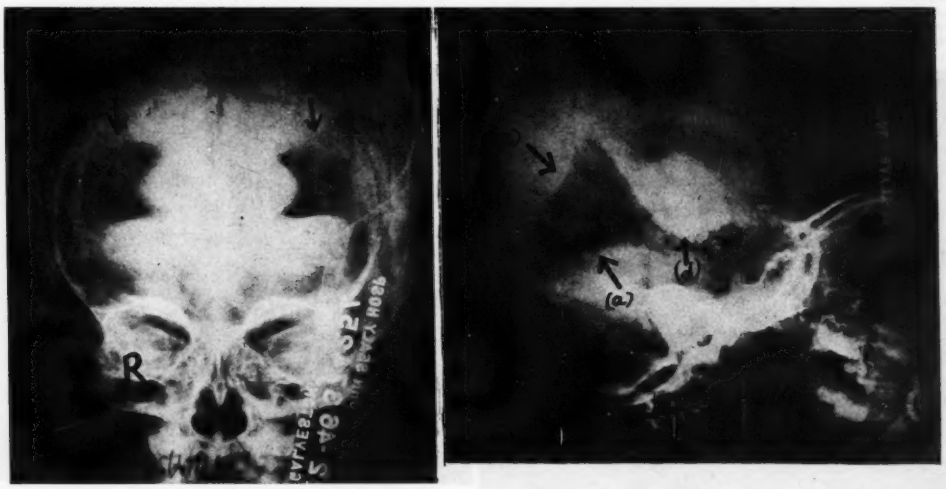

FIG. 3. Case 3. (Left) The lateral ventricles are dilated and separated (arrows). Their mesial margins are concave. The third ventricle is not elevated.

(Right) The posterior horn of the lateral ventricle is dilated (a). The entire callosal sulcus (b) and the cingulate sulcus (c) are seen. A soft tissue mass (d) apparently represents a cyst of the septum pellucidum.

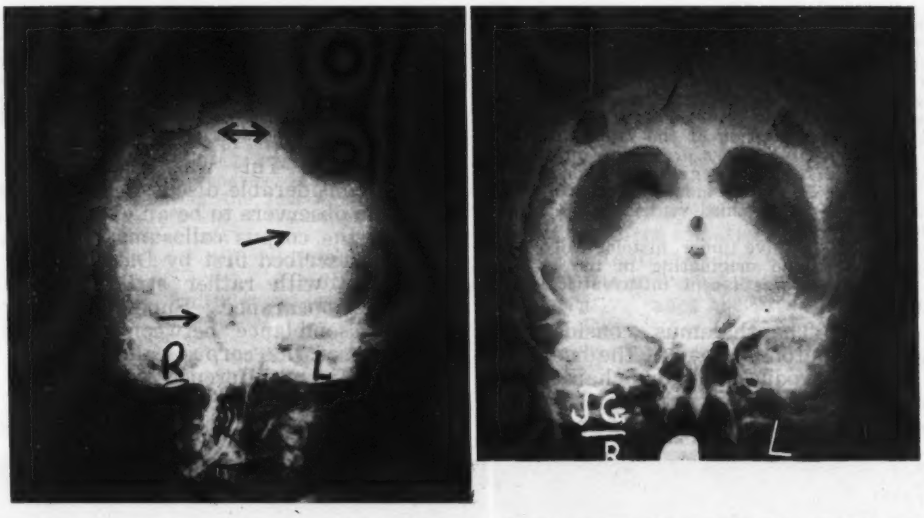

FIG. 4. (Left) Case 4. Upper arrow shows dilated lateral ventricles, the left one elevated. Middle arrow shows elevation of left leaf of tentorium. Lower arrow shows fourth ventricle displaced to the right.

(Right) Case 5. The sagittal suture is wide (arrow), and the lateral, third, and fourth ventricles are dilated, with deformity of the fourth.

ate generalized ventricular dilatation, absence of cerebrocortical pathways, and an irregular porencephalic cavity in the right frontal lobe; there was no displacement of the midline structures.

Course.—With the diagnosis of porencephaly, the infant was discharged without treatment.

Discussion.—This case presents the recurrent problem of etiology in porencephaly. Good evidence exists to indicate that it may be congenital or acquired by trauma or meningo-encephalitis.[4, 6] The immediate mechanism in either case is apparently interference with the vascular supply to a portion of the brain. In this instance, the inadequate history hinders the interpretation, but I would favor a traumatic etiology in view of the possible head injury, the irregular appearance of the area of porencephaly, and the absence of demonstrable subarachnoid pathways.

CASE 2.—A white girl, 13 years old, entered the hospital with a history of frontal headache for the past eighteen months, followed by ataxia, weak legs, nausea, vomiting, and irregular fever. The initial diagnosis at home had been "poliomyelitis."

Physical Examination.—The child was semicomatose throughout her remaining six weeks of life. The salient neurological findings were nuchal rigid-

FIG. 5. Case 6. The calcium-bearing mass preoperatively occupies a large volume of the left parietal region.

ity, inability to walk, positive Romberg sign, and positive Babinski sign bilaterally.

Roentgen Studies.—Skull roentgenograms disclosed evidence of increased intracranial pressure with greatly exaggerated convolutional impressions on the inner table. The ventriculogram (Fig. 2) disclosed enormous dilatation of the lateral ventricles and a large soft-tissue mass projecting into the left lateral ventricle from the region of the midline and third ventricle. The impression was that of an obstructing tumor in the third ventricle or a possible pinealoma.

Necropsy.—A massive tumor, histologically a glioblastoma, was found originating in the left thalamic area. There was recent intraventricular and subdural hemorrhage.

Comment.—The thalamus, considered by many neuroanatomists one of the basal ganglia, usually produces tumors characterized by varying syndromes of muscular dystonias. It forms the dorsolateral part of the wall of the third ventricle. The roentgenographic appearance of this tumor is in keeping with the location of the thalamus. The clinical neuromuscular changes are consistent with this neoplasm, but the vomiting was probably caused by pressure effects on the fourth ventricle affecting the vagus center. Similarly, involvement of the thermoregulatory center in the basal ganglia may have accounted for the fever.

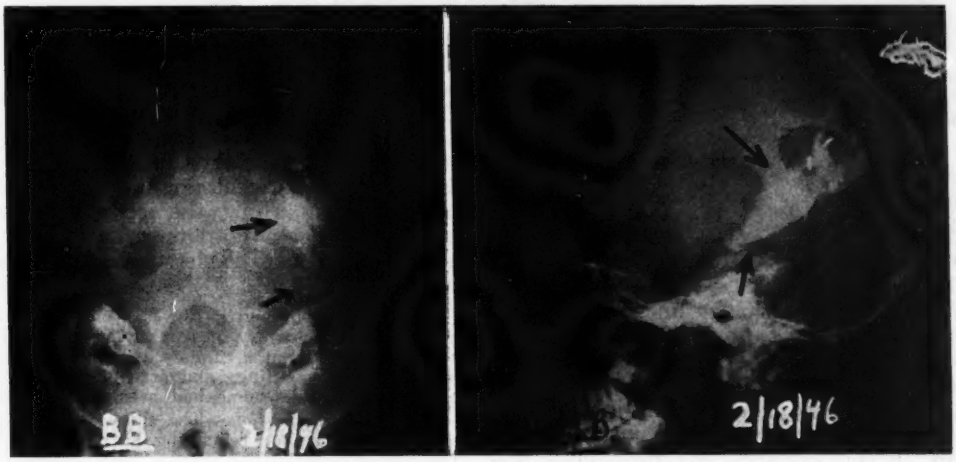

FIG. 6 Case 6. Two and a half years later, and two years after operation, the mass is smaller than originally (although some growth has occurred since partial removal). The upper broad arrow in the frontal view (left) points to separation of the operative bone flap; an increase in intracranial pressure is indicated.

CASE 3.—A 3.5 year old white boy was presented at the Diagnostic Clinic. Up to 3 months of age his development was apparently normal. At that age, he had an upper respiratory infection with a questionable encephalitis allegedly manifested by a unilateral strabismus of one year's duration.

Physical Examination.—The left arm was used more than the right, which displayed involuntary movements. The gait was clumsy and wide-based. Plantar response to stroking was normal. The electroencephalogram had an irregular convulsive pattern without localization characteristics.

Roentgen Studies.—The pneumoencephalogram (Fig. 3) showed dilated lateral ventricles, particularly in the posterior thirds of their bodies and occipital horns; wide separation of the lateral ventricles with concave mesial margins; equal displacement of each lateral ventricle from the midline and an apparent round soft tissue mass between them.

Comment.—This was a case that occasioned considerable discussion, and was held by some observers to be an example of agenesis of the corpus callosum. This is a rare entity, described first by Davidoff and Dyke in 1934,[2] with rather striking roentgenographic appearance. Superficially there is some resemblance between this case and agenesis of the corpus callosum, but there are significant differences which, in my opinion, exclude such a diagnosis. As the illustrations show, the lateral ventricles do not have a dorsal peaking but rather a blunt dorsal margin; the callosal sulci are visible and the cingulate gyrus and sulcus above the left one; the third ventricle is normal or displaced downward slightly; and elongation of the mesial sulci, radiating from the roof of the third ventricle, is not present. The radiologic diagnosis is cyst of the septum pellucidum. It may be that the cyst is secondary to the encephalitis alleged to have existed after the age of 3 months. A report on serum sent elsewhere for encephalitis virus antigen study has not been made up to this time.

CASE 4.—A 15 month old white baby with a history of normal development to the age of 12 months had a sudden tonic convulsion preceded by a cry, and characterized by rotation of the head to the right, increasingly severe weakness and incoordination over a period of six weeks.

Roentgen Studies.— Although skull roentgenograms showed evidence of increased intracranial

pressure, the parents took him home against medical advice. Several weeks later they returned the baby to the hospital and stated that in the interval projectile-type vomiting had developed, followed by weakness of the left side, cross temper, and restlessness.

The ventriculogram (Fig. 4) in this case confirmed the clinical diagnosis of left cerebellar tumor. The illustrations show the left infratentorial space-occupying lesion with secondary dilatation of the ventricles, displacement of the fourth ventricle to the right and of the left leaf of the tentorium cerebelli dorsally. The operative and histological diagnosis was astrocytoma of the left cerebellar hemisphere.

CASE 5.—A white boy, 10 years old, was presented with a story of irregular vomiting increasing in frequency over a period of six months. There was no headache and no disturbances of vision, speech, or gait. He had been treated vigorously, by the family physician, for pylorospasm.

Here, a presumptive clinical diagnosis of tumor of the fourth ventricle was confirmed by ventriculogram and operation, which disclosed a medulloblastoma of the fourth ventricle, extending over the medulla and cervical cord.

Roentgen Studies.—The ventriculogram (Fig. 5) showed dilatation of all the ventricles, some deformity of the fourth, and moderate separation of the sagittal suture, as illustrated.

Comment.—Cases 4 and 5 are examples of the more usual conditions in children, usually in conformity with the clinical observations, as these were.

CASE 6.—This 10 year old white boy has been observed since January, 1941. At that time he had a history of right-sided epileptiform seizures for four years, with no jerking of the limbs or biting, but with his head turned to the right occasionally. No history was elicited to indicate a significant event preceding the onset.

A clinical diagnosis of epilepsy was made, and the etiology suggested was tuberculoma, apparently influenced by the roentgen demonstration of a calcified left parietal mass. A perforator biopsy yielded tissue diagnosed as astroblastoma with considerable gliosis and a negative acid-fast stain. A chest roentgenogram appeared normal.

The course became progressively worse, with increased severity of seizures, frequent falls, and headaches. Roentgen studies displayed increasing size of the lesion, as illustrated in 1943 (Fig. 6). In 1944, operation was performed and 100 Gm. of tumor tissue was removed. Histologically it was very vascular, with small tubular calcifications. The pathologic diagnosis was vascular glioma.

Although there has been slow symptomatic improvement, the tumor is again growing and, as indicated in the illustrations, there is evidence of increased intracranial pressure now (Fig. 7).

Comment.—Although pneumography was not performed, this case is presented because of its location, its roentgen appearance, and its misinterpretation originally as tuberculoma. Tuberculoma is not only relatively infrequent now, but calcification in it is rare, occurring in only 11 of 815 tuberculomas collected by Scott and Graves[5] in 1933 from the literature, for a percentage of 0.01. In location this neoplasm is among the minority of children's tumors, and histologically it is most peculiar, suggesting a slowly growing glioma with considerable glial proliferation and vascular calcification.

SUMMARY

Intracranial pneumography is a relatively safe and accurate means of diagnosing and localizing intracranial lesions, assuming that the procedure is in competent hands with due precaution against the recognized dangers. In children it may be of particular value in view of the often unsatisfactory histories and even examinations, and makes the localization definite more often than not.

Illustrative cases are presented.

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ABSTRACT OF DISCUSSION

Dr. S. N. Snodgass, Galveston: We are dependent upon roentgen studies in the diagnosis of many of the brain lesions encountered in children. For example, we recently had a comatosed child in the hospital for a period of two or three weeks in which the diagnosis of medulloblastoma was not made until roentgen studies had been accomplished. Ventriculography is often desirable when neoplasm or subdural hematoma is suspected. In encephalography I believe that one should remove sufficient fluid to enable adequate visualization of the cephalic structures. The use of the horizontal x-ray beam in visualizing structures and fluid levels is of definite value. The routine use of flat roentgenograms is sometimes forgotten in these cases. I have seen a number of children who have gone along for years without a definite diagnosis in which such a procedure later revealed the presence of neoplasm.

ARTHRITIS CAMPAIGN OPENS

The National Arthritis Research Foundation on October 7 formally opened its campaign to raise $2,500,000 to attack the problem of the causes, cure, and prevention of arthritis and those rheumatic diseases directly related to it. The Foundation recently announced the names of nineteen prominent leaders as members of its National Medical and Scientific Advisory Council to direct all research and medical activities of the Foundation. The council members represent eleven specialties: arthritis, bacteriology, general medicine, heart, metabolism, nutrition, orthopedics, pathology, physical medicine, physiology, and virology.

The recently organized Foundation expects to build a research center at Hot Springs National Park, Arkansas, national headquarters of the Foundation, to house the principal laboratories and headquarters staff. In addition, grants-in-aid are to be made to various universities and research centers to carry out correlated investigations.

All who are concerned with mass x-rays of the chest should be on the alert for possible cancer of the lung.—Editorial, Ohio State M. J., April, 1946.

HERPES ZOSTER

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Herpes zoster is a severe debilitating disease. An enormous amount of work has been done in recent years in the investigation of the pathology, treatment, and various manifestations of herpes zoster. It has been known to occur in the proportion of 1 to 2 per cent of all diseases of the skin. It is usually not dangerous except when there is involvement of the eye. The disease may be of long duration, the period ranging from weeks to many months. It occurs with the greatest frequency and with most severity in the latter half of life.

The most complete review of the literature of herpes zoster is given by Edgerton.[5] He believes there is a true epidemic and a symptomatic zoster. The true zoster may run a definite course and is not related to other diseases. The true zoster is contagious and bears a resemblance to varicella, encephalitis, and anterior poliomyelitis. An attack usually conveys an immunity and like other exanthemas, recurrence is unusual. It presents many symptoms commonly observed with eruptive febrile diseases, such as malaise, digestive disturbances, and fever which usually subsides with the appearance of the eruption. In the symptomatic zoster there is usually a very different history from that of the epidemic form. The eruption is not caused by a virus in this latter group but by secondary involvement of the nerve or posterior root ganglion in the course of some other disease.

Baird[1] also considered that the accumulated evidence supports the opinion that true herpes zoster is essentially an acute posterior poliomyelitis caused by a filtrable virus. It is a transmissible disease and totally unrelated to the virus of herpes simplex.

We shall not consider the differential diagnosis but will limit our discussion to the symptomatic form of the disease.

PATHOLOGIC PHYSIOLOGY

The pathologic physiology of herpes zoster involves a consideration of all agents that may produce any type of injury to the dorsal root ganglion. These include pressure of tumors, traumatic injuries, exudates of systemic disease, poisoning by heavy metals such as arsenic, blood dyscrasias, Hodgkin's disease, and vertebral disease. The mechanism of the distinctive skin lesions of herpes zoster is of considerable importance. It seems that the various injurious influences act on the posterior root ganglion, producing vasodilatation of the corresponding segment of skin and muscle. There are numerous theories of explanation of the action of the process in producing the vesicles.[1, 7, 9, 12] The essential vesicular unit is a cluster of vesicles situated on a basic plaque of erythema. Several such clusters are usually present and may involve any part of the body. The vesicles themselves are ordinarily tense and thick walled.

The pain of herpes zoster is explained on the basis of inflammation or degeneration of sensory nerve fibers entering the dorsal root ganglion. This pain is variable in intensity. It may precede or accompany the skin manifestations, and especially in older people it may occur as a severe neuralgia and may persist for months or years after the disappearance of skin lesions.

Symptomatic herpes zoster is usually frequent in persons who are overworked or ill. The appearance of the eruption is usually preceded by malaise, neuralgia, and hyperesthesia of the affected area. The acute phase usually runs from ten to thirty days. Second attacks are very rare.

DIAGNOSIS

The diagnosis is usually easily made but in cases where the vesicles are confined to some obscure locality such as the eye, ear canal, mouth, or bladder, the diagnosis is more difficult. A lumbar puncture may disclose the characteristic zoster lymphocytosis of the spinal fluid. In the early stage of zoster or during the first or second day, one may encounter cases where there is erythema but no pain or vesicles. The unilateral distribution of the erythema may be helpful. Numerous cases have been reported in association with leukemia.

Occasionally the process is bilateral[4] as in the trigeminal ganglia and frequently there is a generalized form.[14] Most of the reported cases with multiple lesions have occurred in association with severe constitutional illness, such as Hodgkin's disease or leukemia.

TREATMENT

Many methods of treatment have been advocated. There are supportive measures such as protection of the lesions themselves and application of calamine or soothing lotions. The use of flexible collodion applied to the lesions is protective. Subcutaneous injections of thiamine chloride and the use of cobra venom have been employed with fair results.[2, 11] Local injections of procaine for

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nerve block[6] probably give the quickest relief and relief is often permanent.

Roentgen therapy is not new. Vignol[13] was probably one of the first to advocate its use. Keichline[8] in 1934, reported 62 cases treated by irradiation. Of this group, 90 per cent were completely relieved by one treatment. He used 150 r, filtered through 3 mm. aluminum at a distance of 30 cm. Tuggle[10] in 1940, reported 72 cases treated with irradiation. Of those treated within seven days of onset of symptoms, 89 per cent were cured. This is a striking comparison with 54 per cent of cures in the series whose symptoms were more than thirty days old. Tuggle's method was 200 r, every other day, for five or six treatments, using 200 kilovolts through 1 mm. copper filter at a 50 cm. distance.

The skin lesions of our treated cases showed the nerve root involvement in essentially the same distribution as in the series of Keichline's patients: cranial 6, cervical 10, thoracic 35, and lower spine 7.

The result of treatment tabulated according to duration of symptoms followed very closely Tuggle's series of cases. In our series of 57 cases there were 24 (41 per cent) males and 33 (57 per cent) females. The majority of the patients, 35 (63 per cent), were more than 50 years of age.

TABLE 1.—*Distribution According to Age and Sex.*

	Total	10-20 years	21-30 years	31-40 years	41-50 years	51-60 years	61+ years
Males	24	1	0	2	8	6	22
Females	33	2	2	4	3	7	0
	57	3	2	6	11	13	22

Our method follows very closely that of Tuggle. A total of 800 to 1,000 produced better results. We used 200 r daily, the factors being 200 kilovolts, 0.5 mm. copper and 1 mm. aluminum filter at 50 cm. distance. The patients showing immediate increase in pain following the first treatment responded more readily to the therapy.

TABLE 2.—*Results According to Duration of Symptoms before First Treatment.*

		1-7 days	8-14 days	15-28 days	29+ days
200 to 600 r.	16 cured	6	4	1	5
	7 improved	—	—	2	5
	7 failed	—	1	1	5
800 to 1,000 r	22 cured	10	6	4	2
	3 improved	—	2	1	—
	1 failed	—	—	—	1
	Total	16	13	9	18

Of the total cases treated, 38 were cured, 10 were improved, and 8 were failures.

Of the 16 patients with symptoms less than one week old, all except 1 were free of pain in seven to ten days. Of the 18 patients with symptoms of more than 29 days, 11 (60 per cent) were either only improved or a failure. Ten of these patients, however, had less than 600 r, and we believe this in part explains these figures. The percentage of cures in the early cases seems to parallel closely the results of other writers.

SUMMARY

Roentgen therapy is an effective method of treatment in herpes zoster. It is true that procaine injection does produce quicker results but often there is a latent post herpetic neuralgia. The combination of procaine injection and irradiation sounds feasible. The quicker the patient is treated after the onset of symptoms the better the results.

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CANCER CONTROL EDUCATION RECOMMENDED

A joint committee on health problems in education from the National Education Association and the American Medical Association, meeting in Chicago recently, adopted a statement pointing out that cancer control is a major health problem in the United States and that as such it merits attention not only in research but also in education. The committee recommended that instruction concerning the nature of cancer and known methods of prevention and control be included in the high school course of study.

CORNEAL TISSUE PRESERVATION LIMITED

Corneal tissue will remain clear and of normal thickness and can be used suitably for transplantation up to a period of three days, reports Dr. Charles I. Thomas, Department of Surgery, Division of Ophthalmology, Western Reserve University School of Medicine, Cleveland, in the September, 1946, issue of *Archives of Ophthalmology*. After experimenting with six different preservative mediums, Dr. Thomas concluded that the tissue becomes progressively hazy and thickened after three days and is thus unsuitable for grafting.

A COMPARISON OF TWO CHOLECYSTOGRAPHIC MEDIA

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This report will give the results of a clinical, roentgenologic, and surgical study on the use of two cholecystographic media, namely, tetraiodophenolphthalein and B-(4-hydroxy-3,5-diiodophenyl)-α-phenyl-propionic acid. The phenolphthalein compound used was a product of a leading pharmaceutical concern while the propionic acid compound was furnished in part by the Schering Corporation and called Priodax.

Previous reports have emphasized the advantages of Priodax, but no actual comparison of the two media has been reported except for a series by Paul, Pohle, and Benson.[7] With such a comparison in mind, 1,000 consecutive patients were chosen in whom the first 500 were given tetraiodophenolphthalein while the next 500 received Priodax. The tetraiodophenolphthalein was given in 4 Gm. doses with strict following of Kirklin's[5] recommendations in regard to diet, time, preparation, and roentgenographic technique. The Priodax was given in 3 Gm. doses following the procedure recommended by the Schering Corporation. All patients were questioned during the morning of the gallbladder examination in regard to their symptoms.

CHART 1. *Reactions to Priodax as Reported in the Literature.*

Authors	Nausea	Vomiting	Diarrhea	Burning on Urination
Bryan and Pederson 245 cases	20%	2%	30%	13%
Hefke 600 cases	occasional	0.08%	11%	3% in 100 males 0% in females
Einsel and Einsel 50 cases	0	0	0	0
Dannenburg 143 cases	0	3%	0	0
Marshall 50 cases		0.5%	0.5%	1%
Wasch 134 cases	18%	0%	13%	2%

The major symptoms caused by the two media are nausea, vomiting, diarrhea, and burning on urination. Chart 1 shows the frequency of these symptoms as reported by different authors. It is noted that there is a wide variation in the percentage of nausea, vomiting, diarrhea, and burning on urination.

To investigate the symptoms of all patients, we decided to question them about nausea, vomiting, diarrhea, burning on urination, abdominal cramps, headache, backache, burning in the throat, bad taste in the mouth, insomnia, and general malaise. We attempted to grade the symptoms on the basis of severity so that grade 1 would represent a symptom of minimal amount while grade 4 would indicate a severe reaction.

CHART 2. *Reactions to Tetraiodophenolphthalein and to Priodax.*

(500 Cases) Tetraiodophenolphthalein			(500 Cases) Priodax		
Reaction	Cases	Grade	Reaction	Cases	Grade
Nausea	106	1	Nausea	88	1
	125	2		62	2
	110	3		22	3
	30	4		7	4
Vomiting	12	1	Vomiting	4	1
	4	2		6	2
	4	3		2	3
	1	4		0	4
Diarrhea	108	1	Diarrhea	103	1
	100	2		55	2
	76	3		20	3
	30	4		13	4
Burning on Urination	16	1	Burning on Urination	67	1
	8	2		61	2
	3	3		40	3
	0	4		42	4
Abdominal Cramps	74	1	Abdominal Cramps	54	1
	91	2		45	2
	46	3		14	3
	9	4		6	4
Headache	18	1	Headache	10	1
	19	2		12	2
	7	3		3	3
	0	4		0	4
Burning in Throat	28	1	Burning in Throat	3	1
	20	2		7	2
	15	3		0	3
	6	4		1	4
Bad Taste	56	1	Bad Taste	37	1
	105	2		41	2
	40	3		6	3
	10	4		2	4
Backache	10	1	Backache	4	1
	5	2		0	2
	2	3		0	3
	0	4		0	4
Insomnia	39	1	Insomnia	8	1
	62	2		3	2
	23	3		1	3
	5	4		2	4
General Malaise	82	1	General Malaise	62	1
	158	2		43	2
	95	3		15	3
	10	4		6	4
Other Reactions (including faintness, dizziness, supra-pubic pains, etc.)	1	1	Other Reactions	10	
	6	2			
	9	3			
	5	4			
No Reactions in 39 Cases			No Reactions in 109 Cases		

The phenolphthalein compound used was a product of a leading pharmaceutical concern while the propionic acid compound was furnished in part by the Schering Corporation and called Priodax.

Grades 2 and 3 indicate corresponding grades between 1 and 4.

Chart 2 gives the findings for both media. We soon found that our percentages of reactions were quite a bit higher than those reported in the literature. It is well known that it is difficult to define the term "diarrhea," and the evaluation of nausea is also somewhat complicated. We decided that for

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diarrhea to be listed as a symptom, the patient must have had two or more loose stools after taking the media in order for the symptoms to be listed as grade 1. Before the symptom "nausea" was listed as grade 1, the patient had to complain of a definite feeling of a "sick stomach." Since we used the same criteria for symptoms with both media, we believe that a comparison can be made; however, the low incidence of symptoms caused by Priodax, as reported in the literature, leads us to believe that these authors only listed the more severe reactions.

Chart 3 was compiled by using the figures from charts 1 and 2. A percentage analysis of the reactions caused by the two cholecystographic media is presented as well as average percentage figures from the cases reported in the literature. It will be noted from chart 3 that Priodax produced almost 50 per cent less of all symptoms listed except for burning on urination and burning in the throat. Forty-two per cent of all patients who received Priodax complained to some degree of burning on urination, and this has been the outstanding complaint. We concluded from chart 3 that as far as the patient is concerned, Priodax is a much preferable medium for cholecystography except for the high instance of burning on urination.

CHART 3. *Analysis of Reactions to Tetraiodophenolphthalein and to Priodax.*

	Tetraiodophenolphthalein 500 Cases	Priodax 500 Cases	Priodax 1,222 Cases from the Literature
Nausea	74%	35%	6%
Vomiting	4%	2%	1%
Diarrhea	63%	38%	9%
Burning on Urination	8%	42%	2%
Abdominal Cramps	44%	23%	
Headaches	8%	5%	
Burning in Throat	13%	17%	
Bad Taste	42%	17%	
Backache	3%	1%	
Insomnia	23%	2%	
General Malaise	60%	26%	

To compare the two media from a radiographic standpoint, the roentgenographic reports were analyzed and chart 4 was prepared. It will be noted that there is very little difference between the two media as far as the roentgenographic diagnosis is concerned. Gas partially obscured the gallbladder image in an equal number of cases, but tetraiodophenolphthalein was present in the hepatic flexure of the colon in 30 instances, or 6 per cent, of the 500 patients who received this medium. In the patients who received Priodax, there was no instance of medium being noted in the colon or small bowel.

Of the 500 patients receiving tetraiodophenolphthalein, 77, or 15 per cent, showed some pathologic change on the roentgenograms, while in the Priodax series, 88, or 17 per cent, had an abnormal roentgenogram. The roentgenologic diagnosis was consistent with the clinical impression in a high percentage of the cases. As was to be expected, the 5 patients who had papillomata had no symptoms.

In the patients receiving tetraiodophenolphthalein, 6 had calculi and no symptoms, while in the Priodax series, 3 with stones had no symptoms.

CHART 4. *Roentgenographic Analysis of Tetraiodophenolphthalein and Priodax.*

	Tetraiodophenolphthalein	Priodax
Normal visualization	422	412
Poor visualization	11	4
Good concentration with stones	20	30
Poor concentration with stones	6	17
No concentration with stones	14	13
No concentration or stones	34	22
Normal visualization with papillomata	2	3
Gallbladder area obscured by gas	228	227
Gallbladder area obscured by media in bowel	30	0

No concentration of the dye was noted in 3 symptomless patients receiving Priodax, while this apparent error did not occur in the tetraiodophenolphthalein series. We believe that these minor variations between the roentgenologic and clinical impressions are of no significance.

Of the 165 patients who had positive gallbladder roentgenograms, only 19 were operated on. This reflects the conservative handling of cases of chronic cholecystitis in our institution. Twelve of the patients had tetraiodophenolphthalein and 7 received Priodax. There was complete agreement with the roentgenologic, surgical, and pathologic findings in all 19 patients operated on. These surgical and pathologic findings are not of sufficient volume to determine accuracy of the roentgenologic diagnosis, but since this series of 1,000 cases, we have routinely used Priodax in slightly more than 4,000 patients. Surgical findings have confirmed the roentgenologic diagnosis in a very high percentage of all cases, and we feel safe in concluding that Priodax is equally as reliable as tetraiodophenolphthalein. We do not use the double dose method but rely more on a close correlation of the roentgeno-

logic and clinical findings for the doubtful cases. At times we repeat the gallbladder examination, and if a good filling is obtained the second time, we consider that the apparently poor concentration of the medium in the first examination was due to some error in procedure or roentgen technique. Priodax is not used in patients with severe kidney damage.

Paul, Pohle, and Benson in their series of 114 patients who received Priodax found 28 per cent complained of nausea, 1.7 per cent of vomiting, 22.8 per cent of diarrhea, and 15 per cent of burning on urination. These percentages closely followed our results except for burning on urination. This symptom was present in 42 per cent of our patients who received Priodax. These authors also noted no difference in the density of the two media on the roentgenograms, and also did not find the intensified dose method to be of any marked value.

Paul, Pohle, and Benson acknowledged their observations to be at variance with the majority of the reports in the literature, and in our 1,000 cases there was a fairly close agreement with their findings. We did not include their series of 114 patients who received Priodax in our statistics of other authors for the reason that our results closely paralleled theirs, and both reports are at variance with the majority of other recorded experiences.

CONCLUSION

1. As far as the patient is concerned B-(4 hydroxy-3, 5-diiodophenyl)-ă-phenyl propionic acid (Priodax) is a more preferable medium for cholecystography than tetraiodophenolphthalein.

2. As far as the radiologist, clinician, and surgeon are concerned, Priodax is equal in reliability to the time-tested tetraiodophenolphthalein.

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ABSTRACT OF DISCUSSION

Dr. Palmer E. Wigby, Houston: Drs. Stevenson and Smith have presented useful information concerning cholecystographic media as a result of painstaking effort. It is clinical investigative data of this kind which are necessary to medical progress and we are all grateful that men in our own community are able and willing both to carry out the work and then deduce conclusions which will be of value to radiologists and thus the profession as a whole.

I have not tabulated any consecutive large series of cases on the side symptoms of any cholecystographic medium. I did correlate a series of 200 consecutive cases at Parkland Hospital in Dallas in about 1937 with the clinical findings. We were using iodeikon by mouth almost exclusively. In that series 1 case visualizing normally showed several very minute calculi at operation within an essentially normal gallbladder, and 1 other case showing nonvisualization revealed a normal gallbladder to palpation at operation. This latter patient was in the psychopathic ward and we strongly suspected that she did not take the dye although she knew gallbladder symptoms well enough to prompt the surgeon to post her for cholecystectomy. He did not remove the gallbladder. Other than in these 2 cases, the roentgenologic findings were consistent with the clinical findings in every case.

When I first started using Priodax in my office in Houston I inquired of every patient personally for several weeks about side symptoms. It seemed to me that there were practically no complaints. I recall one large heavy man, to whom I had given 12 tablets, stating that he had diarrhea almost all night. Since receiving Drs. Stevenson and Smith's paper I listed the symptoms on a chart and had the technicians ask each gallbladder patient about each symptom, telling them that diarrhea meant at least two loose, somewhat liquid stools, during the night after taking the tablets. The tabulation shows diarrhea as a complaint in every case except 1; that patient stated hers was slight, meaning one or two soft stools. The only conclusion I could draw from that small study of about 30 cases is that the dye is causing more side symptoms now than it did when it first came out. The same was true for burning on urination, except that symptom is not as frequent as diarrhea. Nausea and vomiting were conspicuously infrequent. I realize these conclusions may well be highly inaccurate inasmuch as I talked to the first group of patients myself and the second recent group were questioned almost entirely by different technicians. Nevertheless, I still feel that Priodax is an improvement over the old preparations and I intend to continue to use it until something definitely better is presented.

Dr. Roy G. Giles, San Antonio: In my experience Priodax is a much less toxic contrast medium than sodium tetraiodophenolphthalein. Due to the toxic effects which sometimes follow the use of sodium tetraiodophenolphthalein in adults, very few references are to be found in the literature on cholecystography in children. John Caffey* stated, "In the few cholecystograms we have attempted in infants and children younger than 3 years, satisfactory gallbladder shadows have not been demonstrable." Hrdlicka, Watkins, and Robb† reported cholecystography in 47 unselected children. They were of the opinion that Priodax was a satisfactory contrast medium for children over 9 months of age. The toxic effects were minimal in young infants, and the dosage required in some cases was even 1.5 Gm. per 10 Kg. of body weight. The ordinary dose of 0.5 Gm. per 10 Kg. of body weight was sufficient for children 4 years of age or older.

*Pediatrics, X-Ray Diagnosis, Chicago, Year Book Publishers, 1945, p. 402.
†Am. J. Dis. Child. 70:325-328 (Nov.-Dec.) 1945.

From time immemorial man has considered health as his rightful heritage, and has therefore resented disease as a misfortune visited upon him by malignant external influences.—Edward J. Stieglitz, M. D., A Future for Preventive Medicine, The Commonwealth Fund, 1945.

CANCER OF THE LARYNX, ITS DIAGNOSIS AND TREATMENT

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Diagnosis is the first step in the treatment of disease. This axiom is particularly applicable to carcinoma of the larynx, for early accurate diagnosis of laryngeal cancer with appropriate therapy has converted a previously incurable condition with a mortality rate of 100 per cent to one of approximately 15 per cent. The incidence of cancer of the larynx seems to be increasing. The explanation for this is the increasing average length of life and more accurate diagnosis. Cancer of the larynx is now, in my experience, diagnosed much more frequently than laryngeal tuberculosis and syphilis. This is quite different from the ratio between these conditions twenty-five years ago. Cancer of the larynx ranks sixth among the cancerous conditions. In England, twenty deaths from cancer of the stomach occur to one of the larynx; while in the United States, there are forty deaths from cancer of the stomach to one of the larynx. It is uncertain whether this means more cancer of the larynx in England than in the United States, or better treatment of laryngeal cancer in this country.

Cancer of the larynx can be diagnosed as early as cancer of the skin, for hoarseness is the earliest and most persistent symptom of carcinoma of the vocal cords. Of all symptoms the most frequent is headache and the next is hoarseness. The frequency of hoarseness in the common disorders and its occurrence in a multiplicity of diseases is conducive to neglect by the patient as well as the doctor. Simply to say that hoarseness is an early symptom of cancer of the vocal cords is of no help in the early diagnosis of the condition. Something more is needed, for hoarseness ranks second among the symptoms and compared to the common diseases cancer of the larynx is relatively rare. The laws of physics, such as the law of gravity, and the laws of chemistry are merely crystallized experience. In this sense, it may be accepted as a dictum, as a law in diagnosis, that any patient with hoarseness persisting as long as two weeks is entitled to an examination of the larynx, for hoarseness plus the time factor of two weeks is the equivalent of an early diagnosis. Pain radiating to the ear, the wheezy cough, difficulty in breathing, pain on swallowing, fetid breath, and persistent pain are all late symptoms.

It is a general diagnostic law that the presenting symptom is dependent on the location of the disease. Carcinoma of the vocal cords, intrinsic cancer, has the early presenting symptom of hoarseness, but the presenting symptoms of extrinsic cancer of the larynx are all late. Cancer of the tissue anterior to the epiglottis, of the epiglottis itself, of the medial surface of the pyriform sinus, of the mucosa over the signet portion of the cricoid, and of the subglottis have no common characteristic symptom save that of late appearance. The first indication of cancer of the so-called bursa of the epiglottis may be a metastasis to the cervical glands or a fungating mass at the base of the tongue with persistent pain. The presenting symptom of cancer of the pyriform sinus may be pain in the ear or usually dysphagia, while that of the subglottis is a cough or dyspnea with a normal voice. The only fortunate thing about extrinsic cancers of the larynx is that they are rare. Extrinsic cancers are so rare that the term "cancer of the larynx" has almost come to mean cancer of the vocal cords. The location of the lesions in their order of frequency is the vocal cords, pyriform sinus, subglottis, epiglottis, and the space anterior to the epiglottis.

Carcinoma of the larynx may appear as an ulcer, as a warty projection, or as a cauliflower mass on one or both vocal cords. The typical appearance of a cancerous ulcer is a shallow irregular saucer with slightly elevated edges vigorously alive on one vocal cord usually in the middle third. The warty projection frequently has an alive appearance probably because of the red streaks. It may be on the medial edge of the vocal cord, but is usually on the upper surface and may occur on the subglottic aspect. Instead of warty projection the cancer may occur as a narrow or relatively broad ribbon with a velvety or plush appearance varying in color from gray to pink to crimson. There seems to be a tendency for the growth to extend anteriorly and cross the midline at the anterior commissure. Also the neoplasm seems to be confined to the mucosa with little tendency to cross the submucosa and invade the vocal muscle until relatively late. In a low grade of malignancy, the cancer cells slowly creep forward in the mucosa from the initial lesion toward the anterior commissure and usually even more slowly to the arytenoids. But in a high degree of malignancy, the extension fairly races to and around the anterior commissure to the other vocal cord, the false cords, and the arytenoids. And then there is the papilloma, a wolf in sheep's clothing. It may have the typical appearance of a papilloma either with a narrow base and slender neck, or flat

Read before the Section on Eye, Ear, Nose, and Throat, State Medical Association of Texas, Annual Session, Galveston, May 2, 1946.

with a broad base and no neck, or a part of the tumor may be typical papilloma except for an ulcerated area with red streaks. A relation between the malignancy of the tumor and its location in the anterior, mid, or posterior third of the vocal cord has not been demonstrated. The fixed arytenoid, usually with an edematous mucosa, is demonstration enough that the cancer has broken through the submucosal barrier and invaded the muscles, and so entirely changes the prognosis and treatment.

The differential diagnosis between pachydermia, tuberculosis, syphilis, and cancer of the larynx is not so easy on the patient as it is on paper. The roentgen examination of the lungs to rule out tuberculosis and metastasis is of course obligatory. It has been my unhappy experience that the serologic tests for syphilis of the larynx are not reliable. The biopsy is necessary to make a definitive differential diagnosis between cancer, syphilis, tuberculosis, and pachydermia. This is readily done with the direct laryngoscope and punch forceps under local anesthesia.

Broders' classification of cancer cells into four groups as an indication of their relative malignancy has proved to be satisfactory in carcinoma of the larynx. The basis of the grouping is the ratio of undifferentiated cells to the differentiated with the percentage of the undifferentiated cells determining the group. Thus in group 1, the undifferentiated cells are 25 per cent of the whole; group 2, 50 per cent; group 3, 75 per cent; and group 4, 100 per cent. In carcinoma of the larynx, this grouping is not of mere academic interest but is quite practical, for Broders' classification is as yet the best indication of the cancer cell's sensitivity to irradiation, with group 1 the least, graduated to group 4 the most sensitive. The clinical application of this pathological observation is in the selection of the treatment of choice for cancer of the larynx. The general rule is the more malignant the cancer the more sensitive to irradiation and the less amenable to surgery. Consequently, roentgen therapy is the method of choice in all cases of group 4, while surgery is indicated in groups 1, 2, and 3.

Papilloma of the larynx in the child is regularly a benign tumor and becomes dangerous only when it reaches a sufficient size to obstruct breathing. But papilloma of the larynx in the adult, either young or old, is always potentially serious. The reason for this is that the cancerous basal cells, carcinoma baso-cellulare, occur only very rarely in the papillomata of the larynx in children, but are frequently deep in the base of flat papillomata in the adult. The lip of the laryngeal punch forceps must be pressed in firmly in doing a biopsy on a clinical papilloma and even then the layer of cancerous basal cells deep in the base of the neoplasm is not infrequently missed. A recurring papilloma of the larynx, sometimes referred to as endothelioma, is cancer until proven otherwise.

The method of choice in the treatment of laryngeal cancer is dependent on many factors, for no one method is equally efficient in all cases. The duration of the disease, the location, size, and degree of malignancy of the tumor, the age and general health of the patient are all factors to be considered in selecting the method of treatment. The treatment must be designed to meet the needs of the patient. An illustration of this dictum is my experience with a man 81 years of age with diabetes and the history of several bouts with coronary thrombosis, hoarseness persisting for seventeen days, and a cancer about 3 mm. in diameter on the subglottic surface of the right vocal cord. Under local anesthesia, a broad tipped electro-cautery white hot through the laryngoscope destroyed the cancer with one touch. The wound healed in two weeks and the patient had no recurrence before his death two and one-half years later from angina pectoris.

Patients with group 4 carcinoma should be irradiated in accordance with the Chutard technique. Surgery does not have a brilliant record with very malignant cancer even when the operation is performed early. The Cutler technique of heavy dosage of roentgen rays applied within a period of seven days is designed as an answer to the harassing question of whether radiation or surgery is the better in a particular case. Broders' classification even in the hands of a highly competent pathologist is not infallible and Cutler's technique offers the proof of the efficacy of the roentgen rays in curing the cancer, for if the neoplasm has completely disappeared within two weeks after the use of roentgen rays by the Cutler technique a cure is almost assured. However, if the tumor has not completely disappeared within three weeks of Cutler's technique, an operation must be done during the fourth week. The operative wound heals promptly during the fourth week after irradiation; but thereafter it progressively heals more slowly. Surgery a year or more after irradiation is almost contraindicated because the wound usually fails to heal.

It seems advisable to dessicate or fulgurate the base of laryngeal papilloma, particularly the flat type, in the adult, after its removal with the punch. This cauterization is

an additional factor of safety in assuring the destruction of the carcinoma baso-cellulare so frequently present in the base of papilloma. Also, there seems to be a place for dessication in the early cases of cancer with an ulcer no larger than 4 mm. A practical hypothesis is that cancer cells extend not more than 5 mm. beyond the edge of an ulcer confined to a motile vocal cord. The dessication of an early and small cancerous ulcer completely destroys the cancer with minimal damage to the vocal cord and maximal preservation of the voice. The method of dessication in cancer of the larynx has a sharply limited field and is not applicable to medium and large ulcers.

Local anesthesia is quite satisfactory in thyro-fissure and in laryngectomy, but sodium pentothal is preferable when operating after radiation with the Chutard technique. This is particularly true in radiation perichondritis with abcess formation. Sodium pentothal does not control the cough reflex but this can be done by the topical application of cocaine after opening the trachea. Thyro-fissure was introduced by St. Clair Thompson and consists of splitting the thyroid cartilage in the midline and removing the affected vocal cord. Thyro-fissure is indicated when the neoplasm is confined to one vocal cord that is motile, that is without fixation of the arytenoid. It may be used even if the tumor extends beyond the anterior commissure as much as 5 mm. The present technique of the laryngectomy and the equally important postoperative care is a surgical evolution with the object of controlling hemorrhage, preventing infection, and reducing mortality. A laryngectomy is indicated where the tumor is confined to one vocal cord with fixation of the arytenoid, involves both vocal cords, or the entire larynx. It does not seem to make any difference whether the epiglottis is removed or not, nor is the operation facilitated by sectioning or removing the hyoid bone, unless the Vasconcelos-Baretto clamp is used.

Thanks to penicillin and the sulfonamides, the healing of a wound after thyro-fissure and laryngectomy is frequently by primary intention except where radiation has been used. Here sloughing is almost invariable with healing by granulation—if it occurs. The improvements in the technique of treatment during the past thirty years have had a profound effect on rates of mortality and recurrence. But lowering the mortality and recurrence rates is not the result so much of improved technique as to the most important factor of all—early diagnosis. The chief credit for early diagnosis, paradoxical as it may seem, must be given to the alert and conscientious general practitioner, and not to the laryngologist. Unless the general practitioner refers the patient to him, the laryngologist almost invariably sees these patients in the late and not in the early stage. It is literally true that the life of a patient with carcinoma of the larynx is in the hands of the first physician he consults. The patient whose doctor observes the dictum that a person hoarse for fourteen days is entitled to a laryngeal examination rather promptly gets well and in more than 90 per cent of the patients may stay well, provided, of course, that the laryngologist who first inspects the larynx sees the anterior commissure and advises a biopsy to provide a quick and reasonably certain answer to any suspicious pathologic condition. A cancerous patient who is not examined early, or is examined early but not thoroughly, either has a mutilating operation or is dead in two years, and not infrequently experiences both. The general practitioner holds the key position in the early diagnosis of carcinoma of the larynx and the first laryngologist to inspect the larynx determines the efficiency of the treatment.

1304 Walker Ave.

ABSTRACT OF DISCUSSION

Dr. E. H. Cary, Dallas: After reading the interesting paper of Dr. Cody, I think it would be a repetition of thought if I attempted to discuss his paper in detail, but since the key to what can be done for cancer of the larynx is an early diagnosis, I think the first and last sections contain the most important contribution this paper offers.

If we are able to stimulate the interest of the general practitioner so that he will never forget the importance of a person remaining hoarse for the period of time outlined, two weeks, without having him visit a laryngologist who possesses the facilities of making a correct inspection of the larynx, then I am sure we will see persons suffering from cancer which is not difficult to cure.

Cancer located in any part of the body is a very tricky disease and, while it is important to have knowledge of Broders' classification and the character of treatment which it leads one to adopt, it is nevertheless true that clinically we have seen cancer ever so innocent looking rapidly metastasize and become incurable, whereas we have also seen a very distressing situation recognized as cancer, which had been mishandled, grown extensively, and yet was still circumscribed. I agree in toto with the essayist's treatment of this condition and I am quite certain that group 4 type, in spite of what I have just said, deserves the most experienced roentgen ray service that can be had.

I am inclined to think the roentgenologist's knowledge and use of his armamentarium is quite as important as a surgeon with good surgical technique. Until Chutard outlined his treatment, I think the roentgenologists were groping.

There are many other things one could say about Dr. Cody's paper but I think it will stand on its own merits.

Dr. A. F. Clark, Sr., San Antonio: Differential diagnosis of lesions within the larynx becomes easier with experience. Compared to other anatomical areas

attacked by cancer, the larynx is comparatively easy to examine. The experienced eye makes the diagnosis of cancer of the larynx by repeated careful indirect examination in the majority of cases. A confirmation biopsy must follow.

I am not fully convinced that we should accept the term "precancerous lesion." Indeed the more experienced laryngologist in conjunction with a specially trained pathologist often gets a positive biopsy for carcinoma of the vocal cord immediately following a negative examination by the lesser trained physician.

As indicated by Dr. Cody, there is a grave responsibility to the patient with laryngeal carcinoma by the physician in charge. The latter should be a thoroughly trained laryngologist who in turn seeks the necessary aid from other fields of medicine. He must be prepared to carry out the indicated surgery to eradicate the lesion as soon as possible following positive biopsy. For this reason a previous physical survey should have been made.

In my locality many patients come too late for curative surgery. This especially applies to patients referred from Mexico.

Dr. Louis Daily, Houston: Dr. Cody touched upon many phases of this vital subject—malignancies of the larynx. It takes a student and a scholar of Dr. Cody's caliber to present so much material in such a short paper. One should not rely too much upon roentgen ray treatment. It may cause the growth to disappear almost entirely and to re-appear in a few months worse than ever. There is a diversity of opinion about combining surgery and roentgen therapy. Year before last I did a laryngo fissure in a case where all the indications were favorable for this type of operation. I removed a border of normal tissue along with the tumor mass, which was substantiated by serial sections. To make it doubly safe a few weeks following surgery the patient was given a course of roentgen ray treatment. Except for his husky voice he made a complete recovery and resumed his occupation as a construction engineer. Subsequently he developed a severe roentgen ray burn of the esophagus and laryngo-pharynx.

Dr. Cody mentioned sodium pentothal for intralaryngeal surgery. I usually do my work under local anesthesia, cocaine, and adrenalin. But in soft small tumors this will cause shrinking so that the surgeon can hardly see the tissue to be removed. Ether spray is contraindicated if one uses the cautery. In these cases sodium pentothal is the ideal anesthetic, but it is very difficult to get a good exposure of the larynx with sodium pentothal. Sometimes it produces a spasm and a contraction of the muscles of the neck.

The late Dr. M. G. Lynch, of New Orleans, used chloroform spray in this type of case. Most anesthetists are afraid to use it.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Dallas, May 5-8, 1947. Dr. C. C. Cody, Jr., Houston, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, House of Delegates, Chicago, December 9-11, 1946; Regular General Session, Atlantic City, N. J., June 9-13, 1947. Dr. Harrison H. Shoulders, Nashville, Tenn., President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

Southern Medical Association. Dr. M. Y. Dabney, Birmingham, Ala., President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southwest Allergy Forum, Shreveport, La., March 31-April 1, 1947. Dr. W. H. Browning, Shreveport, La., President; Dr. Sim Hulsey, Medical Arts Bldg., Fort Worth, Secretary.

Texas Association of Medical Anesthetists, Dallas, May 5, 1947. Dr. Claudia Potter, Temple, President; Dr. Russell Bonham, Box 6237, Houston, Secretary.

Texas Association of Obstetricians and Gynecologists, Fort Worth, November, 1947. Dr. J. E. Kanatser, Wichita Falls, President; Dr. Julius McIver, 714 Medical Arts Building, Dallas, Secretary.

Texas Chapter, American College of Chest Physicians, May 5, 1947. Dr. R. G. McCorkle, San Antonio, President; Dr. Elliott Mendenhall, 1217 Medical Arts Bldg., Dallas, Secretary.

Texas Club of Internists. Dr. Alvis E. Greer, Houston, President; Dr. Julian C. Barton, 414 Navarro St., San Antonio, Secretary.

Texas Hospital Association, Houston, March 27-29, 1947. Tol Terrell, Harris Memorial Methodist Hospital, Fort Worth, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association, Dallas, May 5, 1947. Dr. Fred T. Rogers, Dallas, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Ophthalmological and Otolaryngological Society, Dallas, December 6-7, 1946. Dr. C. H. Brooks, Waco, Acting President; Dr. E. D. Dumas, 425 Medical Arts Bldg., San Antonio, Secretary.

Texas Orthopedic Society. Dr. E. A. Cayo, San Antonio, President; Dr. Edward Smith, 1215 Walker Ave., Houston, Secretary.

Texas Pediatric Society, Houston, October, 1947. Dr. J. R. Lemmon, Amarillo, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, Dallas. Dr. L. P. Walter, Austin, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Secretary.

Texas Radiological Society, Houston, January 25, 1947. Dr. Herman Klapproth, Sherman, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association, May 5, 1947,. Dr. F. L. Snyder, Fort Worth, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene, San Antonio, April 10-12, 1947. Dr. Jack R. Ewalt, University of Texas Medical Branch, Galveston, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastro-Enterologists and Proctologists, Dallas, May 5, 1947. Dr. Tom E. Smith, Dallas, President; Dr. D. L. Curb, 704 Dallas Ave., Houston, Secretary.

Texas Society of Pathologists, Houston, January 28, 1947. Dr. May Owen, Fort Worth, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Heart Association, Dallas, May 5, 1947. Dr. Robert M. Barton, Dallas, President; Dr. M. B. Whitten, Medical Arts Bldg., Dallas, Secretary.

Texas State Urological Society, Houston, December 2, 1946. Dr. Joe C. Alexander, Dallas, President; Dr. Michael K. O'Heeron, 901 Medical Arts Bldg., Houston, Secretary.

Texas Surgical Society, Dallas, April, 1947. Dr. Walter Stuck, San Antonio, President; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

Third, Panhandle, District Medical Society, Amarillo, April 8-9, 1947. Dr. W. A. Carroll, Claude, President; Dr. George Powers, Fisk Bldg., Amarillo, Secretary.

Fourth District Medical Society, Coleman, 1947. Dr. Glenn H. Ricks, Brady, President; Dr. J. C. Young, Coleman, Secretary.

Seventh, Austin, District Society. Dr. Robert B. Morrison, Austin, President; Dr. M. I. Brown, Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts Medical Society, Orange, April, 1947. Dr. Walter F. Hasskarl, Brenham, President; Dr. George W. Waldron, Medical Arts Bldg., Houston, Secretary.

Eleventh District Society. Dr. L. L. Travis, Jacksonville, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas, District Society, Temple, January 14, 1947. Dr. Thomas G. Glass, Marlin, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco, Secretary.

Thirteenth, Northwest District Society, Abilene, Spring, 1947. Dr. Frank Hodges, Abilene, President; Dr. Robert C. Stokes, 501 First National Bank Bldg., Fort Worth, Secretary.

Fourteenth District Society, Dallas, December 10, 1946. Dr. C. B. Thayer, Gainesville, President; Dr. V. L. Tuck, Sherman, Secretary.

Fifteenth, Northeast Texas, District Society. Dr. Joe Roberts, Longview, President; Dr. S. W. Tenney, Marshall, Secretary.

CLINICS

Dallas Southern Clinical Conference, Dallas, March 17-20, 1947. Miss Thelma J. Webb, 1133 Medical Arts Bldg., Dallas 1, Executive Secretary.

International Postgraduate Medical Assembly of Southwest Texas, San Antonio, January 28-30, 1947. Dr. A. Fletcher Clark, 827 Medical Arts Building, San Antonio, President.

New Orleans Graduate Medical Assembly, New Orleans, February 24-27, 1947. Dr. Max M. Green, Room 105, 1430 Tulane Ave., New Orleans 13, Secretary.

Post Graduate Medical Assembly of South Texas, Houston, December 3-5, 1946. Secretary, 229 Medical Arts Building, Houston.

MEDICAL OFFICERS RETURNING TO TEXAS*

NAME	Serv.†	Location	Release Date
Austin-Waller Counties			
4. Shindler, Thomas O.	A	Hempstead	
Bell County			
18. Halley, Bonnie C., Jr.	N	Temple	
19. Robinson, James E., Jr.	N	Temple	
Bexar County			
157. Garren, John T., Jr.	A	San Antonio	
158. Jackson, Dudley, Jr.	A	San Antonio	
159. Jensen, Andrew M.	A	San Antonio	
160. Manhoff, Charles M.	A	San Antonio	
161. May, Henry K.	N	San Antonio	
162. Nixon, Robert R.	A	San Antonio	
Bosque County			
4. Goodall, Edwin	N	Valley Mills	
Brazoria County			
5. Skarke, Edward A.	A	Freeport	
Brazos-Robertson Counties			
9. Walton, Thomas O., Jr.	N	College Station	
Cameron-Willacy Counties			
20. Bleakney, Philip A.	N	Harlingen	
21. Celaya, Albert	A	Brownsville	
22. Dodd, George, Jr.	N	Brownsville	
23. Garcia, Joseph I., Jr.	N	Brownsville	
24. Myers, Gordon S.	N	Brownsville	
Clay-Montague-Wise Counties			
6. Tyler, Joe E.	A	Ringgold	
Coryell County			
6. Koerner, Theodore A.	A	Gatesville	
Dallas County			
226. Abrams, Raymond H.	A	Dallas	
227. Addison, Jack J.	N	Dallas	
228. Bornstein, David M.	A	Dallas	
229. Harkins, James E.	A	Dallas	
230. Jackson, Harvey K.	A	Dallas	
231. Kaplan, Harry L.	N	Dallas	
232. Kidd, Frank H., Jr.	A	Dallas	
233. King, Carey G., Jr.	N	Dallas	
234. Lee, James F.	N	Dallas	
235. Payne, Virgil M., Jr.	N	Dallas	
236. Terry, Jay G.	A	Dallas	
Denton County			
7. Holland, Joseph W.	A	Denton	
DeWitt County			
5. Nowierski, Leon W., Jr.	N	Yorktown	
6. Pridgen, James E.	A	Cuero	
El Paso County			
64. Black, Gordon L.	N	El Paso	
65. Blanco, Victor M.	N	El Paso	
66. Craige, Branch	A	El Paso	
67. Davis, Roy N.	A	El Paso	
68. Nutnick, Reuben	U	El Paso	
69. Phillips, Richard J.	A	El Paso	
70. Stampfli, Frank V.	N	El Paso	
Erath-Hood-Somervell Counties			
6. Mulloy, Mary E.	A	Stephenville	
Falls County			
9. Hutchins, Selwyn P. R.	N	Marlin	
Galveston County			
62. Jaynes, Stanley H.	A	Galveston	
63. Stiernberg, Royall C.	N	Galveston	
64. Wilson, Charles M., Jr.	N	Galveston	
Grayson County			
15. Essin, Emmett M., Jr.	N	Sherman	
Gregg County			
17. Bruce, Elmer I., Jr.	N	Longview	
Hale-Floyd-Briscoe-Swisher Counties			
9. Harmon, Franklin C., Jr.	A	Floydada	
Harris County			
278. Boice, Edward H.	A	Houston	
279. Etter, Richard L.	A	Houston	
280. Hardy, Sidney B.	N	Houston	
281. Jester, Albert W.	N	Houston	
282. Knight, Wm. R., III	A	Houston	
283. Lamberth, Ivey E.	A	Houston	
284. Leonard, Russell J.	N	Houston	
285. McKay, James V.	A	Humble	
286. Miller, Samuel I.	A	Houston	
287. Norris, Ronald F.	N	LaPorte	
288. Sherrill, William M.	A	Houston	
289. Snyder, Hal	A	Houston	
Harrison County			
10. Padgett, Harold O.	N	Marshall[1]	
Hidalgo-Starr Counties			
12. Barker, Edward C.	N	Mercedes	
13. Mattison, Myron D.	N	Donna	
Hopkins-Franklin Counties			
5. Connor, Marvin M.	A	Cumby	
Hunt-Rockwall-Rains Counties			
17. Lenon, E E	N	Greenville	
18. Smith, John R.	A	Wolfe City	
Jefferson County			
56. Duplan, Don C., Jr.	A	Port Arthur	
57. Pitre, Roy Paul		Port Arthur	Aug., 1946
58. Thompson, James T.	A	Port Arthur	
Kimble-Mason-Menard-McCulloch Counties			
5. Hallum, Basil A., Jr.	N	Brady	
6. Hays, Robert D.	N	Brady	
Lamar County			
10. Anderson, Carter, Jr.	N	Paris	
Lubbock County			
28. Ameen, Ray C.	N	Lubbock	
29. Riddel, Roy L., Jr.	N	Lubbock	
McLennan County			
52. Kochmann, Walter P.	A	Waco	
53. Russo, Galileo M.	A	Waco	
Montgomery County			
2. Wilkins, Afton N.	A	Conroe	
Potter County			
31. Knight, Melvin K.	N	Amarillo	
Randall-Deaf Smith-Parmer-Castro-Oldham Counties			
6. Duflot, Leo S. M.	N	Canyon	
Runnels County			
4. Pearce, John Y.	A	Ballinger	
San Patricio-Aransas-Refugio Counties			
11. Woods, Haddon B.	A	Refugio	
Scurry-Dickens-Kent-Garza-Borden-King-Stonewall Counties			
9. Alexander, Arthur B.	A	Spur	
Smith County			
16. Clawater, Earl W., Jr.	N	Tyler	
17. Eisen, Herman M.	A	Tyler	
18. Thompson, Cone J., Jr.	A	Tyler	
Tarrant County			
85. Eldridge, Irving C.	A	Fort Worth	
86. McBride, James O.	N	Fort Worth	
87. Mahaffey, Cecil H.	A	Fort Worth	
88. Moyar, John B.	A	Fort Worth	
89. Myers, Theodore B.	A	Fort Worth	
Tom Green-Coke-Crockett-Concho-Irion-Sterling-Sutton-Schleicher Counties			
23. Jones, R. R.	A	San Angelo[2]	
24. Rape, Marvin G.	A	San Angelo	
Travis County			
59. Adkins, Charles F.	N	Austin	
60. Anthony, James M.	N	Austin	
61. Craddock, Wallis L.	A	Austin	
62. Ellison, Alfred, Jr.	N	Austin	
63. Fisher, Charles I.	A	Austin	
64. McCormick, Thaddeus	A	Austin	
65. Seybold, William D.	N	Austin	
66. Taylor, Thomas U., II	N	Austin	
Washington County			
5. Schoenvogel, Clarence W.	N	Brenham	
Wharton-Jackson-Matagorda-Fort Bend Counties			
18. Jenkins, Edward E.	A	Sugar Land	
Williamson County			
7. Kirkpatrick, Roy H.	A	Taylor	
8. Wales, Philip A.	N	Florence	

*EDITOR'S NOTE: This list is the fourteenth of a series in which it is hoped to name all those physicians who have been in the Armed Forces during the war recently passed and have now returned to Texas to resume civilian practice. The information in this list has been assembled from a variety of sources. While an attempt has been made to secure as complete and as accurate data as possible, we are aware that omissions and errors have been made. Not only for publication in the JOURNAL but also for the permanent records in the central office of the State Medical Association, we invite and urge correction of and addition to the material here submitted. Note that physicians from each county area are numbered consecutively following those listed in the November JOURNAL; the last number in each section therefore indicates the total physicians returned to that county area. The complete total for Texas named to date (November 25), including the accompanying list, is 1,956.

†A=Army; N=Navy; U=U. S. Public Health Service.

[1]Formerly of Graham.

[2]Formerly of Midland.

HOSPITALS NEEDING INTERNS AND RESIDENTS

Methodist Hospital, Dallas. Capacity 206 beds. C. B. Fielder, Superintendent (interns desired, July, 1947).

El Paso City County Hospital, El Paso. Capacity 192 beds. George W. Cook, Col., U. S. A., Ret., Superintendent (3 interns for one year term, graduates of class A medical school only).

TEXAS CLUB OF INTERNISTS

The Texas Club of Internists at its fall meeting in Houston, October 18-19, heard a program presented entirely by Houston physicians and scientists in related fields. The program was as follows:

October 18

Surgery of Congenital Heart Disease—Drs. H. T. Barkley and George W. Salmon.

The Newer Concept of Stokes-Adam Syndrome—Dr. Sidney Schnur.

Mercurial Diuretics; Comparison of Cardiac Toxicity in Animals—Drs. Don W. Chapman and Carl F. Shaffer.

Present Status of Folic Acid—Dr. R. A. Hettig.

Rat Bite Fever—Dr. W. M. Fisher.

Production of Cardiac Enlargement in Adrenalectomized Rats by Desoxycorticosterone—J. H. Gast, Sc. D.

Excretion of Fecal Antibodies During Enteric Infection—Dr. P. E. Harrison.

October 19

Case of the Nephrotic State—Dr. F. H. Kilgore.

Hypogonadism—Dr. J. A. Greene.

Hyperspleenism—Dr. M. A. Zionts.

Filariasis and Schistosomiasis—Asa Chandler, Ph. D.

Dr. Alvis E. Greer, Houston, president of the club, entertained at his home the evening of October 18 with a cocktail party for members and their wives.

STATE BOARD OF MEDICAL EXAMINERS

An examination session will be held February 20-22, 1947, at the University of Texas Medical Branch, Galveston, by the State Board of Medical Examiners, announces Dr. T. J. Crowe, secretary of the board.

TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The seventeenth annual meeting of the Texas Association of Obstetricians and Gynecologists was held in Galveston on November 2, with the largest attendance yet recorded. Seventy-seven members and thirty-eight visitors registered.

The following scientific program was presented:

Welcome Address—Chauncey D. Leake, Ph. D., Vice-President and Dean, University of Texas Medical Branch, Galveston.

Bacteriology of Puerperal Sepsis—Charles E. Lankford, Ph. D., Consultant in Gynecological Bacteriology, John Sealy Hospital, Galveston.

Some Obscure Factors in Human Reproduction—Dr. John Rock, Clinical Professor of Gynecology, Harvard University School of Medicine, Boston.

Study of Calcium of Vulva in John Sealy Hospital—Dr. J. T. Downs, John Sealy Hospital, Galveston.

Psychiatric Aspect of the Menopause—Dr. Herbert Chamberlain, San Francisco.

Clinical Pathological Conference—Drs. Paul Brindley, N. D. Schofield, and Staff, Department of Pathology, and Drs. Hiram P. Arnold, J. T. Downs, Charles H. Nash, Jr., A. J. Jinkins, W. Reed Wood, John D. Weaver, W. R. Cooke, J. J. Delaney, Bernard Perlman, M. A. Caravageli, David L. Traylor, and Staff, Department of Obstetrics and Gynecology, University of Texas Medical Branch, Galveston.

Male Factors in the Barren Marriage—Jules K. Lamar, Ph. D., Consultant in Gynecological Endocrinology, John Sealy Hospital, Galveston.

The Pediatrician's Viewpoint in Some Obstetric Problems—Dr. Virgil Baxter, Instructor in Obstetrics and Gynecology, University of Texas Medical Branch, Galveston.

A Technique for Sterilization—Dr. Willard R. Cooke, Obstetrician-in-Chief and Gynecologist-in-Chief, John Sealy Hospital, Galveston.

The Calvin R. Hannah Lecture: Pelvic Cellulitis—Dr. William F. Mengert, Professor of Obstetrics and Gynecology, Southwestern Medical College, Dallas.

The J. F. Y. Paine Address: Menstrual Disorders and Their Treatment—Dr. John Rock, Boston.

Discussion of Present Methods of Investigation of Sterility—Dr. M. J. Meynier, Jr., Houston.

President's Address: Vaginal Hysterectomy (moving pictures)—Dr. Allen L. McMurrey, Houston.

Early Development of Human Ovum (slides)—Dr. John Rock, Boston.

The Adolescent Impact on the Personality—Dr. Herbert Chamberlain, Sacramento, Calif.

Drs. H. Reid Robinson and J. L. Jinkins, both of Galveston, were chairmen of the arrangements committee and presided at the morning session. Dr. Allen L. McMurrey, Houston, president, and Dr. Julius McIver, Dallas, secretary, presided at the afternoon and evening sessions.

A luncheon for visiting obstetricians and gynecologists was held at John Sealy Hospital through the courtesy of Dr. B. I. Burns, director, and William O. Bohman, superintendent. Mesdames J. L. Jinkins, H. Reid Robinson, Willard R. Cooke, and A. J. Jinkins were in charge of a luncheon at Hotel Galvez for visiting women, at which Mrs. John Rock, Boston, and Mrs. Herbert Chamberlain, San Francisco, were special guests. Thirty-eight women attended. A cocktail hour for physicians and their wives was held at the Buccaneer Hotel preceding dinner, at which the final addresses by Drs. Rock and Chamberlain were delivered.

New members announced at the dinner include Drs. William F. Guerriero, Dallas; Theodore R. Hannon, Houston; Rudolph K. Harlan, Temple; and Horace C. Sweet, San Antonio.

The next meeting will be in Fort Worth in November, 1947. Until that time, the following officers will serve: Drs. J. E. Kanatser, Wichita Falls, president; Warren E. Massey, Dallas, president-elect; Charles A. Smith, Texarkana, vice-president; Julius McIver, Dallas, secretary-treasurer; Milton Davison, Marlin (1947), E. H. Marek, Yoakum (1947), Allen Stewart, Lubbock (1948), J. N. Burditt, Abilene, (1948), Allen McMurrey, Houston (1949), and G. H. Beavers, Jr., Fort Worth (1949), executive council.

The organization is sponsoring an award of $100 for the best paper on obstetrics and gynecology replacing an earlier award of $50, which has been withdrawn. The new contest will be open not only to members of the society but to junior members, physicians eligible for junior membership, and residents in obstetrics and gynecology at accredited hospitals. The award is being given to honor the late Dr. Calvin R. Hannah, Dallas.

A. M. A. SESSION OPEN ONLY TO FELLOWS

The American Medical Association centennial anniversary session in Atlantic City, N. J., June 9-13, 1947, will be open only to fellows of the association and invited guests. The central office staff of the association, 535 North Dearborn Street, Chicago 10, urges that physicians who are not fellows and wish to attend, write now to the Chicago office to check upon their eligibility for fellowship. Primary qualification is membership in a state medical society; dues and subscription to *The Journal of the American Medical Association* are included in an annual payment of $8, which is the cost of *The Journal* to subscribers who are not fellows.

MOTION PICTURES OF PHYSICIANS WANTED

Motion pictures of famous physicians and surgeons of the past are wanted by the American Medical Association in connection with its one hundredth anniversary session in Atlantic City in 1947, announces *The Journal of the American Medical Association.* A special feature of the meeting will be the showing of a film now being prepared of outstanding medical personalities at work or play. Those hav-

ing motion pictures which might be suitable or knowing of such films are invited to submit information about them, including the length of film, whether in color or in black and white, and the circumstances under which the pictures were taken. Original film sent to the Committee on Medical Motion Pictures of the Association will be duplicated and returned to the owner.

BILL PERTAINING TO CORONER'S INQUESTS*

Section 1. That Article 968, Code of Criminal procedure of the State of Texas, 1925, be, and the same is hereby amended to read as follows:

"Article 968. When Held.

"Any justice of the peace shall be authorized, and it shall be his duty, to hold inquests without a jury within his county, in the following cases:

"1. When a person dies in prison or in jail.

"2. When any person is killed; or from any cause dies an unnatural death, except under sentence of the law; or dies in the absence of one or more good witnesses.

"3. When the body of a human being is found, and the circumstances of his death are unknown.

"4. When the circumstances of the death of any person are such as to lead to suspicion that he came to his death by unlawful means.

"5. When any person commits suicide, or the circumstances of his death are such as to lead to suspicion that he committed suicide.

"6. When a person dies without having been attended by a duly licensed and practicing physician, and the local health officer or registrar required to report the cause of death under Rule 41a, Sanitary Code of Texas, Art. 4477, Revised Civil Statutes, General Laws, 46th Leg., 1939, p. 343, does not know the cause of death. When the local health officer or registrar of vital statistics whose duty it is to certify the cause of death does not know the cause of death, he shall so notify the Justice of the Peace of the precinct in which the death occurred and request an inquest.

"7. When a person dies who has been attended by a duly licensed and practicing physician or physicians, and such physician or physicians are not certain as to the cause of death and are unable to certify with certainty the cause of death as required by Rule 40a, Sanitary Code of Texas, Art. 4477, Revised Civil Statutes, Chap. 41, Acts 1st Called Session, 40th Leg., 1927, page 116. In case of such uncertainty the attending physician or physicians, or the superintendent or general manager of the hospital or institution in which the deceased shall have died, shall so report to the justice of the peace of the precinct in which the death occurred, and request an inquest.

"The inquests authorized and required by this article shall be held by the justice of the peace of the precinct in which the death occurred, but in event the justice of the peace of such precinct is unavailable, or shall fail or refuse to act, then such inquest shall be conducted by the nearest available justice of the peace in the county in which the death occurred."

Section 2. That Article 969, Code of Criminal Procedure, 1925, be and the same is hereby amended so as to read as follows:

"Art. 969. Body disinterred or cremated.

"Sec. 1. When a body upon which an inquest ought to have been held has been interred, the justice may cause it to be disinterred for the purpose of holding such inquest.

"Sec. 2. Before any body, upon which an inquest is authorized by the provisions of Article 968, Code of Criminal Procedure, 1925, as herein amended, can be lawfully cremated, an autopsy shall be performed thereon as provided in this Act, or a certificate that no autopsy was necessary shall be furnished by the justice of the peace. Before any dead body can be lawfully cremated, the owner or operator of the crematory shall demand and be furnished with a certificate, signed by the justice of the peace of the justice precinct in which the death occurred showing that an autopsy was performed on said body or that no autopsy thereon was necessary. No autopsy shall be required by the justice of the peace as a prerequisite to cremation in case death was caused by the pestilential diseases of Asiatic cholera, bubonic plague, typhus fever, or smallpox, named in Rule 77, Sanitary Code of Texas, Article 4477, Revised Civil Statutes of Texas, 1925. All certificates furnished the owner or operator of a crematory by any justice of the peace, under the terms of this Act, shall be preserved by such owner or operator of such crematory for a period of two years from the date of the cremation of said body.

"Sec 3. Any person violating any provision of this article insofar as it relates to the cremation of bodies, shall be guilty of a misdemeanor, and upon conviction shall be fined in any sum not less than Five Hundred ($500.00) Dollars and not more than One Thousand ($1,000.00) Dollars, or by imprisonment in the county jail for not more than six months, or by both such fine and imprisonment."

Section 3. That Article 970, Code of Criminal Procedure, 1925, be and the same is hereby amended to read as follows:

"Article 970. Physician Called In.

"Upon an inquest held to ascertain the cause of death, the justice shall in all cases call in the county health officer, or if there be none or if his services are not then obtainable, then a duly licensed and practicing physician, and shall procure their opinions and advice as to the necessity of an autopsy before reaching a determination as to whether or not to order an autopsy to determine the cause of death. If upon his own determination he deems an autopsy necessary, the justice of the peace shall request the county health officer, or if there be none or if it be impracticable to secure his services, then some duly licensed and practicing physician who is trained in pathology, to make an autopsy in order to determine the cause of death, and whether death was from natural causes or resulted from violence, and the nature and character of either of them. The county in which such inquest and autopsy is held shall pay to the physician making such autopsy a fee of not more than One Hundred ($100.00) Dollars, the amount to be determined by the Commissioners' Court after ascertaining the amount and nature of the work performed in making such autopsy."

Section 4. That Article 971, Code of Criminal Procedure, 1925, be and the same is hereby amended to read as follows:

"Article 971. Chemical Analysis.

"If upon such inquest, it becomes necessary to determine whether the death has been produced by poison, the justice of the peace, upon his own determination, or upon request of the physician performing such autopsy, shall call in to his aid, if necessary, some medical expert, chemist, toxicologist or licensed physician practicing pathology, qualified to make an analysis of the stomach and its contents, together with such other portions of the body as may be necessary to be analyzed and tested, for the purpose of determining the presence of poison in such body. The Commissioners' Court shall pay to such expert or specialist such fee as it may determine reasonable, not to exceed One Hundred ($100.00) Dollars."

*A bill to be introduced in the Fiftieth Legislature to correct deficiencies in present Texas statutes pertaining to inquests by justices of the peace. The bill has been approved by the Texas Society of Pathologists and the Executive Council of the State Medical Association. Editorial discussion of the bill may be found on page 457 of this number of the JOURNAL.—Ed.

Section 5. That Article 1053, Code of Criminal Procedure, 1925, be and the same is hereby amended to read as follows:

"Article 1053. Inquest Fee.

"A justice of the peace shall be entitled, for an inquest on a dead body, including certifying and returning the proceeding to the proper court, the sum of Ten ($10.00) Dollars, to be paid by the county. When an inquest is held over the dead body of a State penitentiary convict, the State shall pay the inquest fees allowed by law of all officers, upon the approval of the account therefor by the Commissioners' Court of the county in which the inquest may be held and by the General Manager of the Texas Prison System."

Section 6. That Section 1, H. B. 613, p. 343, General Laws, Regular Session, 46th Legislature, 1939, being a part of the Sanitary Code of Texas, be and the same is hereby amended to read as follows:

"Death without medical attendance.

"That in case of any death occurring without medical attendance, it shall be the duty of the undertaker or person acting as such to notify the local registrar of such death, and when so notified the registrar shall, prior to the issuance of permit, inform the local health officer and refer the case to him for immediate investigation and certification; provided that when the local health officer is not a physician, or when there is no such official, and in such cases only, the registrar is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts: provided further, that if the registrar or the local health officer, as the case may be, is in doubt as to the cause of death, or if the case be one otherwise properly referable to a justice of the peace for inquest into the cause of death, he shall then refer the case to a proper justice of the peace for inquest, investigation, and certification. And the justice of the peace or other proper officer whose duty it is to hold an inquest on the body of any deceased person, and to make the certificate of death required for a burial permit, shall state in his certificate the name of the disease causing death, or, if from external causes, (1) the means of death; and (2) whether (probably) accidental, suicidal, or homicidal; and shall, in any case, furnish such information as may be required by the State Registrar in order properly to classify the death; provided, further, that when a death of any person not a resident of that district, or unknown in that district, occurs, the justice of the peace or person acting as coroner shall secure the finger prints of the deceased and the following physical marks of identification:

"(a) Color of hair
"(b) Color of eyes
"(c) Height
"(d) Weight
"(e) Deformities
"(f) Tattoo marks
"(g) Such other facts as set forth by the State Board of Health as will be of assistance in identifying the deceased.

"The finger prints and the physical identification marks shall be placed on a form prescribed by the State Board of Health, and shall be attached to the death certificate. The State Registrar shall forward to the State Department of Public Safety the report showing the finger prints and other physical marks of identification."

Section 7 (a). Any physician duly licensed under the laws of the State of Texas to practice medicine, who, when an autopsy is ordered by a Justice of the Peace, performs the autopsy in good faith in the belief that the order of autopsy is a valid order, shall not be held liable for damages in event it should be determined that the order of autopsy made by the Justice of the Peace is for any reason invalid.

(b). The provisions of this Act shall not apply to any law suit now pending.

Section 8. Saving Clause.

In the event any section, part of a section, or provision of this Act be held invalid, unconstitutional, or inoperative, this shall not affect the validity of the remaining sections or parts of sections of the Act, but the remainder of the Act shall be given effect as if said invalid, unconstitutional, or inoperative section, or any part of section or provisions, had not been included.

Section 9. Emergency.

The fact that justices of the peace and physicians and chemists are now underpaid for their services in connection with the holding of inquests and the performing of autopsies on dead bodies; the fact that public health officers and registrars of vital statistics information now have no means of ascertaining the cause of death, in certain cases, as required by the Sanitary Code of Texas; and the further fact that, as a safeguard in the detection and prevention of crime, dead bodies should not be cremated until the cause of death is determined; the importance of this legislation to the public health, vital statistics, and public safety of the people of Texas, constitute an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each House, be and the same is hereby suspended, and it is enacted that this Act shall take effect and be in force from and after its passage.

VENEREAL DISEASE IN U. S. TROOPS

Figures released by the War Department indicate that 1 out of every 500 members of the U. S. Army throughout the world were admitted to hospitals for treatment of venereal disease during the average week in July, 1946. The rate in the United States was 1 out of 1,000; in the European Theater, 1 out of 200; in the Western Pacific area, 1 out of 333.

TROPICAL MEDICINE INSTITUTE FOR LIBERIA

Establishment in Liberia of an Institute for Research in Tropical Medicine for the development of effective methods of disease control and eradication was revealed recently at a dinner commemorating the one hundredth anniversary of the independence of the Republic of Liberia. The institute will be operated by the American Foundation for Tropical Medicine, but construction of the necessary building has been assured through a gift of $250,000 from Harvey S. Firestone, Jr., president of the Firestone Tire and Rubber Company.

ARMY MEDICAL LIBRARY PLANS PUSHED

The Association of Honorary Consultants to the Army Medical Library, meeting in Washington on October 4-5, discussed plans for a new building to house the 110 year old library now operating in a non-fireproof structure built in 1887. Major General Norman T. Kirk, Surgeon General of the Army, reported that it was planned to ask Congress at the next session for enabling legislation to erect the new $10,000,000 library building and that it is hoped to include the request for funds in the 1948 budget.

Chauncey D. Leake, Ph. D., vice-president and dean of the University of Texas Medical Branch, Galveston, and one of the library consultants, spoke at the meeting regarding regional representatives for the Association.

Members of leading medical publishing houses met with the director of the library to discuss the difficulties encountered through microfilm copying. It was agreed that a code should be drawn up for the mutual benefit of libraries and publishers and for the protection of authors' copyright interests.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth 3, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Packages were mailed from the Library of the State Medical Association to the following during November:

Drs. Lamm and Lamm, La Feria—*Cesarean Section, technic* (11 articles).

Dr. E. T. Crim, Greenville—(1 journal).

Dr. R. L. Johnson, Pittsburg—*Children, hygiene and health* (12 articles).

Dr. Melvin R. Wilcox, Tyler—*Pneumonia* (18 articles).

Dr. W. R. Swanson, Taylor—*Blood Transfusion, plasma and serum* (19 articles).

Dr. O. Garcia, McAllen—*Mononucleosis, infectious* (13 articles).

Dr. R. E. Lovett, Olney—*Migraine* (17 articles); *Pruritus, ani* (11 articles).

Dr. J. J. Hopkins, Bryan—*Hodgkin's Disease* (15 articles).

Dr. Thomas E. Cook, Dallas—*Hepatitis* (17 articles).

Dr. H. Jaworski, Waco—*War, medicine* (14 articles).

Dr. R. B. Grammer, Fort Worth—*Colitis* (7 articles); *Arteries, coronary* (6 articles).

Dr. David M. Marclay, Amarillo—*Digitalis, toxicity* (10 articles).

Dr. Stewart Cooper, Abilene—*Asthma* (20 articles); *Asthma, therapy* (13 articles); (2 journals).

Dr. J. P. McAnulty, San Angelo—*Bones, marrow* (10 articles).

Dr. John D. Gleckler, Denison—(2 journals).

Southwestern Medical College, Library, Dallas—(1 journal).

Dr. J. D. Casey, San Benito—(1 journal).

Dr. Erle D. Sellers, Abilene—*Extremities, blood supply* (1 articles).

Dr. Joe A. Shepperd, Burnet—*Impregnation* (12 articles).

Dr. C. D. Strother, Sherman—*Penicillin* (22 articles).

Dr. Oscar Huff, Pampa—*Sterility, therapy* (8 articles).

Dr. R. H. McCarty, Lubbock—*Liver, cirrhosis* (16 articles).

Dr. James C. Strong, Paris—*Anesthesia, pentothal sodium* (12 articles).

Dr. F. M. Rogers, Austin—*Cardiovascular System, roentgenography* (7 articles).

Dr. S. H. Watson, Waxahachie—*Myasthenia, gravis* (19 articles).

Mr. Henry Herren, La Feria—*Tuberculosis, epidemiology and statistics* (8 articles).

Dr. George M. Tulloch, Okmulgee, Okla.—24 journals).

Dr. L. B. Outlar, Wharton—*Undulant Fever* (17 articles).

Dr. Thomas W. Kemper, Marshall—*Pituitary Body, pathology* (8 articles).

Dr. W. H. Williams, Abilene—*Embolism* (12 articles); *Heparin* (7 articles).

Dr. S. E. Thompson, Kerrville—*Arteriosclerosis* (19 articles); *Pancreas, diseases* (14 articles); *Arteriosclerosis, cerebral* (10 articles).

Dr. F. A. White, Childress—*Glaucoma* (20 articles).

Dr. Harold M. Northington, Wharton—*Guillain-Barre Syndrome* (6 articles).

Dr. Earl R. Cockerell, Abilene—(1 journal).

Dr. M. D. Watkins, Lubbock—*Anesthesia* (4 articles).

Dr. C. J. Koerth, Kerrville—*Pneumoperitoneum* (14 articles).

Dr. Charles Mims, Mission—*Brain, hemorrhage* (7 articles).

Mrs. T. S. Edwards, Knox City—*Public Health* (13 articles).

Dr. R. E. L. Mewshaw, Waco—*Plague* (7 articles); *Tularemia* (31 articles).

Dr. T. D. Young, Roscoe—(1 journal).

King's Daughters Hospital Library, Temple—*Rabies* (21 articles).

Dr. James W. Williams, Mineola—*Migraine, therapy* (9 articles).

Dr. M. W. Caskey, Wichita Falls—*Epilepsy* (14 articles).

Dr. J. M. Estes, Jr., Abilene—*Impregnation, artificial* (9 articles).

Dr. E. H. Strauss, Big Spring—*Anesthesia, saddle block* (1 article).

Dr. Gordon F. Madding, San Angelo—*Nursing* (8 articles).

Mr. Ralph W. Yarborough, Austin—*Heat, stroke* (15 articles).

Dr. W. A. Chernosky, Temple—(1 journal).

Dr. Charles K. Bivings, Albuquerque, N. M.—*Rectum and Colon, cancer* (3 articles).

Dr. Louis W. Breck, El Paso—*Bones* (18 articles); (1 journal).

Dr. J. W. Gooch, Shamrock—*Eclampsia* (4 articles).

Dr. William Hibbitts, Texarkana—*Uterus, excision* (27 articles).

Dr. R. C. Stokes, Fort Worth—(1 journal).

Dr. C. E. Adams, Abilene—*Paralysis, spastic* (18 articles).

Dr. A. C. Cory, Farmersville—(1 journal).

Packages on compulsory sickness insurance to superintendents, debate coaches, and students in Texas high schools, 56.

ACCESSIONS

New York, Harcourt, Brace & Co.—Williams: The Human Frontier.

Chicago, Year Book Publishing Company—Brunner: Intracranial Complications of Ear, Nose and Throat Infections; Schiff: The Differential Diagnosis of Jaundice.

SUMMARY

REPRINTS RECEIVED, 1,158.	LOCAL USERS, 48.
JOURNALS RECEIVED, 207.	BORROWERS BY MAIL, 55.
ITEMS CONSULTED, 183.	PACKAGES MAILED, 63.
ITEMS TAKEN OUT, 132.	ITEMS MAILED, 697.

TOTAL ITEMS CONSULTED AND MAILED, 965.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Film Library of the State Medical Association of Texas during November:

Antitoxins, Globulin Modified (Available through the courtesy of Lederle Laboratories, Inc.)—Harris School of Nursing, Fort Worth.

Behind the Shadows (Available through the courtesy of the Texas Tuberculosis Association)—Tuberculosis Association, Southeastern District Medical Society, Lufkin.

D. D. T., the Story of (Available through the courtesy of British Information Services)—Premedical and educational students, Lamar College, Beaumont, and St. Paul's Hospital School of Nursing, Dallas.

Eyes for Tomorrow (Available through the courtesy of the Hurst Eye, Ear, Nose, and Throat Hospital-Clinic, Longview)—St. Paul's Hospital School of Nursing, Dallas, and Gregg County Medical Society, Longview.

From Moo to You (Available through the courtesy of the Borden Company)—Coöperative Extension Service, Clinton Avenue Junior High School, Lake Como Junior High School, and the Butler Housing Project, Fort Worth.

Golden Glory (Available through the courtesy of Standard Brands, Inc.)—Public Health Nursing Division, City Hall, Fort Worth.

Goodbye, Mr. Germ (Available through the courtesy of the Texas Tuberculosis Association)—Tuberculosis Association, Southeastern District Medical Society, Lufkin.

Hidden Hunger (Available through the courtesy of Swift & Co.)—St. Paul's Hospital School of Nursing, Dallas.

Know for Sure (Available through the courtesy of the Texas State Board of Health)—Health Department, Sanitation Schools, Foodhandlers' Classes, Fort Worth.

Magic Bullets (Available through the courtesy of the U. S. Public Health Service)—Harris School of Nursing, Fort Worth.

Poliomyelitis, Sister Kenny Method of Treatment of (Available through the courtesy of Dr. Herbert E. Hipps, Waco)—St. Paul's Hospital School of Nursing, Dallas.

Sulfonamide Therapy (Available through the courtesy of Lederle Laboratories, Inc.)—Lamar College, Beaumont.

Tuberculosis, Diagnostic Procedure in (Available through the courtesy of the Texas Tuberculosis Association)—Gregg County Medical Society, Longview.

Vitamins and Some Deficiency Diseases (Available through the courtesy of Lederle Laboratories, Inc.)—Lamar College, Beaumont.

When Bobby Goes to School (Available through the courtesy of Mead Johnson & Company)—Lamar College, Beaumont.

NEW MOTION PICTURE FOR THE FILM LIBRARY

The Motion Picture Film Library of the State Medical Association has received from Abbott Laboratories, North Chicago, Ill., the following film, which is now available for loan on request.

Intravenous Anesthesia. 16 mm., silent, showing time, 42 minutes. This film was produced by Mervin W. La Rue at Walter Reed Hospital, Washington, D. C., and the Percy Jones General Hospital, Battle Creek, Mich., in 1945-1946. It is a teaching film prepared to illustrate the simplest technique for the cautious clinical administration of the drug as well as the careful and most important management of the patient during anesthesia. Considerable footage is allowed to various surgical procedures being performed under intravenous anesthesia.

The physician showing the film should call attention to the fact that idiosyncrasy or overdosage may be encountered, and treatment of such conditions should be given. Also the proved value of combining the inhalation of equal parts of nitrous oxide and oxygen with intravenous pentothal should be stressed. Two typographical errors in the text need correcting.

This film is recommended for the teaching of medical students, anesthesiology residents, and any physicians who need instruction in the proper administration of intravenous pentothal anesthesia.

BOOK NOTES

POSTGRADUATE MEDICINE BEGINS PUBLICATION

The Interstate Postgraduate Medical Association of North America in January, 1947, will launch a new monthly journal, *Postgraduate Medicine*, the association announces. As the official publication of the organization, the journal will draw on the papers and diagnostic clinics of the annual meetings of the association for its pages, but supplemental material from other postgraduate sources will be included. The new publication will supplant the single volume which has previously made available the papers and clinics of each annual meeting of the Association. Scientific and clinical articles on general medicine with emphasis on treatment will be featured, but there will be departments devoted to a review of medical events and meetings, clinical photography, consultation service, book reviews, new drugs and instruments.

[1]**Diseases of the Retina.** By Herman Elwyn, M. D., Senior Assistant Surgeon, New York Eye and Ear Infirmary. Cloth, 587 pages, with 170 illustrations, 19 in color. Price, $10.00. Philadelphia and Toronto, The Blakiston Company, 1946.

This book is divided into eight parts: diseases of the retina resulting from disturbances in circulation; diseases of the retina resulting from vascular formations; degenerative diseases of the retina on a hereditary basis; inflammatory diseases of the retina; tumors of the retina; diseases of the retina leading to retinal detachment; developmental anomalies of the retina; and radiation injuries of the retina.

The author has omitted some of the references to earlier writers mentioned in the voluminous textbooks of ophthalmology, makes frequent reference to the recent literature on the subject, and has written the book in a narrative style so that it is interesting reading. It is worthy of examination by every ophthalmologist.

[2]**Diabetes.** A Concise Presentation. By Henry J. John, M. A., M. D., F. A. C. P., Lt. Col., M. C. Cloth, 300 pages. Price, $3.25. St. Louis, The C. V. Mosby Company, 1946.

In his preface, Colonel John gives the *raison d'etre* of his book as follows: "The need for such a book was impressed upon me by my contact with medical men in the Army during World War II. Many of these medical officers, well trained in modern medicine, showed theoretical knowledge of diabetes but seemed to lack experience in the practical application of this knowledge."

The author, already a wide writer in the field of diabetes, has presented concisely, yet without omissions, a treatise on diabetes which could be used to great advantage by those physicians who are called upon suddenly to treat cases of diabetes and who need a rapid, practical, and authoritative review of the subject. The volume would appeal to medical officers in the Armed Services, to members of resi-

[1]Reviewed by John W. Eschenbrenner, M. D., Fort Worth.
[2]Reviewed by John K. Glen, M. D., Houston.

dent staffs of hospitals, and to general practitioners of medicine who are called upon at rare intervals to treat cases of diabetes.

No claim is made by the author that the material presented is in any way new. In fact, he expresses thanks to many publishers who granted him the privilege of reproducing much of the text from papers previously published.

The book comprises eighteen chapters and a list of references. Proper emphasis is placed upon diagnosis and upon the differential diagnosis of glycosuria with illustrative case reports. The discussion of treatment spans from the author's long experience in the treatment of diabetes and is written from a strictly clinical viewpoint. There are chapters upon the care of diabetic patients who have such complications as pregnancy, hyperthyroidism, and surgical emergencies, and there is an excellent, though not exhaustive, discussion of diabetes in children. There is an important chapter on "Do's and Don'ts." The chapter on diet is not exhaustive but is entirely adequate to the purpose of the book.

[3]**Textbook of Obstetrics.** By Henricus J. Stander, M. D., F. A. C. S., Professor of Obstetrics and Gynecology, Cornell University Medical College; Obstetrician and Gynecologist-in-Chief, New York Hospital and Director of the Lying-In Hospital, New York City. Cloth, 1,277 pages and 740 illustrations. Price, $10.00. New York and London, D. Appleton-Century Co., Inc., 1945.

This volume represents the ninth edition of the original "Williams' Obstetrics," the third revision by Stander. The title of the text has been changed from "Williams' Obstetrics" to "Textbook of Obstetrics," by Stander. This change may come as a surprise to some, but Dr. Stander states that he feels he should shoulder full responsibility for the statements made, as they represent his own methods of practice and teaching. However, many of the excellent illustrations and descriptions from Williams have been retained in the new book. The illustrations used in describing various episiotomy repair techniques are among the worth-while additions.

Although the plan of presentation is similar to that of the last edition of "Williams' Obstetrics," there is much new material in this latest text. Some sections have been completely revised and brought up to date. Much thought has been given to the condensation of the voluminous literature concerning the toxemias of pregnancy. The sections devoted to abnormal pelves are reorganized and more recent data comprehensively described. X-ray pelvimetry is understandably edited. A timely discussion of the new drugs and techniques, in particular a review of the uses of demerol, and apt comments on caudal anesthesia have been added to the section on analgesia and anesthesia.

A comprehensive review and discussion of the Rh factor in relation to obstetrics is covered in the section "Diseases and Abnormalities of the Newborn Child."

The historical data and a great deal of the detailed technical material are presented in small type, while the practical material is in larger type. This will aid the student considerably and make for quick and easy reference for the practitioner and specialist.

"The Textbook of Obstetrics," like the former "Williams' Obstetrics," is one of the definitive texts on the subject.

[4]**Anesthesia in General Practice.** By Stuart C. Cullen, M. D., Head of Division of Anesthesiology, Department of Surgery, State University of Iowa Hospitals; Associate Professor of Surgery (Anesthesiology), State University of Iowa College of Medicine. Cloth, 260 pages. Price, $3.50. Chicago, The Year Book Publishers, Inc., 1946.

It is a pleasure to review a book written by such an outstanding author whom I have had the pleasure to know and to find that another valuable book is added to literature on anesthesia. While it is primarily to be used as a text for medical students and residents, physicians in practice who know something of anesthesia will find it a valuable guide and brief reference. The chapter on premedication is well written and contains a fine chart on premedication dosage for various anesthesia agents.

Another chart that is worth mentioning is one on drugs commonly used for nerve block and spinal analgesia. The cartoons are unusual. They carry a picture message that is very impressive. Although some of the special techniques such as intubation, continuous spinal anesthesia, and curare are mentioned in brief form, the author states that the text is not intended as a complete work on anesthesia. The chapter on curare is interesting; the author has written a great deal on this subject and has probably done as much work as any person in this country on this drug. The appearance of such books on anesthesia and the inclusion of anesthesiology in the curriculum of the medical school is a sign of progress in anesthesia and surgery.

[5]**Diseases of the Adrenals.** By Louis J. Soffer, M. D., Adjunct Attending Physician, The Mount Sinai Hospital, New York City. Cloth, 304 pages. Illustrated with 42 Engravings and 2 Colored Plates. Price, $5.50. Philadelphia, Lea & Febiger, 1946.

In this most recent monograph on diseases of the adrenal glands, Dr. Soffer has included much new material not to be found in earlier, although perhaps more comprehensive, treatises. The book is not as lengthy as some of the earlier works on the subject, notably that of Goldheizer, and may be thought of as a modern handbook of diagnosis and treatment.

The anatomy and histology is disposed of in six pages, but considerable more attention is paid to physiology. Chapter II is devoted to an exhaustive account of the assay of the urinary 17-ketosteroids. In evaluation of the 17-ketosteroids, excretion in the urine is discussed with reference to various normal and pathologic states. Dr. Soffer emphasizes the importance of this adjunct to diagnosis in conditions such as carcinoma of the adrenal in which ketosteroid values are exceptionally high and in other conditions, such as cortical hyperplasia, in which they are not so strikingly elevated. Considerable attention is paid to the subject of Addison's disease, especially with reference to modern treatment both of the crisis and intercritical period. A comprehensive evaluation of the use of desoxycorticosterone is given.

The technique of perirenal insufflation is discussed in some detail and also the dangers of this technique.

In discussing the Waterhouse-Friderichsen syndrome, Dr. Soffer makes the point that death is apparently caused by the overwhelming sepsis rather than bilateral adrenal hemorrhage, since it is doubtful that acute adrenal insufficiency can develop in such a short period of time.

Dr. Soffer's discussion of the adrenogenital syndrome and Cushing's syndrome are fairly good but present no new material for consideration.

Dr. Soffer's presentation of adrenal tumors attempts to correlate the pathologic picture with the clinical finding and the differential diagnoses are discussed. His classification of adrenal tumors is, however, somewhat confusing and perhaps need-

[3]Reviewed by Walter S. Morse, M. D., Houston.
[4]Reviewed by R. A. Miller, M. D., San Antonio.
[5]Reviewed by H. W. Neidhardt, M. D., Department of Pathology, University of Texas Medical Branch, Galveston.

lessly complicated. The same may be said of other treatises on this very difficult subject. Most of the confusion is the result of failure to use a standardized nomenclature.

On the whole, the book seems to contain a great deal of valuable and up-to-date information and probably will be quite interesting to the practicing internist. A vast amount of current literature has been condensed into this well organized book.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

Army Medical Department Civilian Consultants have been increased by another 122 experts, the office of the Surgeon General has announced. Among those named in October are the following Texans: Drs. William W. Bondurant, Jr., San Antonio, and Henry M. Winans, Dallas, internal medicine; Drs. Titus H. Harris, Martin L. Towler, and Hamilton F. Ford, all of Galveston, and Melvin W. Thorner, San Antonio, neuropsychiatry; Dr. Jack R. Ewalt, Galveston, psychiatry; and Dr. James W. Bass, Dallas, history of preventive medicine, Southwest Pacific Area.

The American Urological Association has announced its annual award "not to exceed $500" for an essay on the result of clinical or laboratory research in urology by a urologist who has not been in that special practice for more than five years or a resident in urology in a recognized hospital. Essays must be submitted before May 1, 1947, to Dr. Thomas D. Moore, Secretary, 899 Madison Avenue, Memphis, Tenn., from whom additional information is available.

New Clinics have been planned for Rosenberg and San Antonio, newspaper accounts announce. Dr. J. W. Weeks, Rosenberg, proposes to erect within the next few months a clinic building to accommodate five physicians, informs the Rosenberg *Herald*. The building will be erected adjoining the Fort Bend Hospital. Construction of a $45,500 brick clinic building in San Antonio has been approved by the Civilian Production Administration, states the San Antonio *News*. Drs. S. Foster Moore, E. T. Coates, and Frank M. Martin will build the clinic.

The East Texas Medical Service Society, meeting in Tyler on October 26, heard a report on the East Texas Physio-Therapy Center established by the society, reports the Tyler *Courier-Times-Telegraph*. In less than three months of operation, 44 patients have been undergoing treatment three times a week and only 1 patient has failed to respond to treatment. The National Foundation for Infantile Paralysis is coöperating both financially and with encouragement. Principal speaker for the luncheon meeting was Dr. Oscar B. Marchman, Dallas, and thirty members of the Dallas chapter of the medical service society were guests.

The Veterans Administration Need for Physicians and nurses to staff hospitals in the Southwest and also in the out-patient service has been recently urged by Dr. Lee D. Cady, Dallas Branch medical director for the administration. The McKinney *Courier-Gazette* recently quoted Dr. Cady as pointing to the 42 per cent increase in patients at the eleven Dallas Branch hospitals since V-J Day and the national increase of 29 per cent in the number of hospitalized patients to indicate the increasing demand for qualified personnel if veterans are to receive the superior care to which they are entitled. Dr. Cady also reported that the number of World War II Veterans receiving medical care for service connected disabilities has increased 70 per cent and for nonservice connected disabilities, 117 per cent. The hospitals now operated in this area by the Veterans Administration, all of which are teaching units, will be increased by nine new hospitals to be built during the next two and one-half years. Physicians, nurses, social workers, and technicians who desire additional information concerning the opportunities for employment may contact the Director of Personnel, Veterans Administration Branch Office No. 10, 1114 Commerce Street, Dallas.

Naval Reserve Medical Officers are desired for participation in the Naval Air Reserve Training program, according to an appeal from the Training Command at Glenview, Ill. Naval flight surgeons may affiliate themselves with either the organized or volunteer components of the Inactive Reserve which entails part-time shore duty with a Naval Air Station or Naval Air Reserve Training Station. Personnel in the ranks of commander and lieutenant commander in the Medical Corps are particularly needed for full-time active duty with the Naval Reserve, and officers are assured of consideration in obtaining and continuing duty at the station of their preference. Further information may be obtained from the Bureau of Naval Personnel, via the Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Ill.

Southwestern Medical College.—Two members of the Southwestern Medical College staff have been commended by the University of Guadalajara (Mexico) for their assistance in reorganizing its school of medicine, reports the Dallas *News*. Dr. Arthur Grollman and the late Dr. A. I. Folsom assisted in arranging a curriculum for the Mexican university based to some degree on that in effect at Southwestern. It is understood that the Guadalajara institution contemplates naming its department of urology in memory of Dr. Folsom.

University of Texas.—A postgraduate course in surgery was held at the University of Texas School of Medicine, Galveston, November 18-23, with the primary intention of reviewing recent developments in the field. The Galveston *Tribune* indicates that the program was conducted almost entirely by staff members of the school, including Drs. Robert M. Moore, Charles A. Hooks, A. O. Singleton, Edgar J. Poth, J. M. Thiel, and J. P. McNeill, surgery; W. W. Glass, Jr., William H. Ainsworth, G. W. N. Eggers, orthopedic surgery; Robert E. Cone, Graham McDonald Coffman, and W. L. Bush, urology; Truman G. Blocker, Jr., plastic and maxillofacial surgery; A. W. Harrison, chest surgery; S. R. Snodgrass, neurosurgery; Robert I. Wise, bacteriology; J. K. Lamar, obstetrics and gynecology; M. Brucer, physiology; and H. C. Slocum, anesthesiology.

Forty graduates of the John Sealy College of Nursing were awarded diplomas November 1, reports the Galveston *Tribune*. Miss Helen Frances Ziegler, dean of the school of nursing at Vanderbilt University, delivered the commencement address.

Dr. Truman G. Blocker, Jr., professor of maxillofacial surgery, has been appointed director of the postgraduate training program of the University of Texas School of Medicine to succeed Dr. George M. Decherd, who has become director of health services at the Main Branch in Austin, according to the Galveston *News*.

Chauncey D. Leake, Ph. D., vice-president and dean of the University of Texas Medical Branch, was the principal speaker when the Riverside County Medical Society of Southern California held a special dinner in Palm Springs, Calif., on November 9 to commemorate the centennial of ether anesthesia.

Dr. Eric Ogden, professor of physiology at the University of Texas Medical Branch, gave a series of lectures on the cardiovascular system at New York University College of Medicine during November, the college informs.

Dr. Arild Hansen, professor of pediatrics and chairman of the Child Health Program of the University of Texas Medical Branch, during November attended the American Council of Rheumatic Fever convention in New York, a meeting of the editorial board of the *Journal of Pediatrics* and the American Academy of Pediatrics in Pittsburgh, Pa., and a meeting of the scientific committee of the national livestock and meat board in Chicago, according to the Galveston *Tribune*.

Dr. Edgar J. Poth, professor of surgery, and Dr. John McGivney, instructor in surgery at the University of Texas Medical Branch, presented papers at the Southern Medical Association meeting in Miami, Fla., November 4-7.

A. Packchanian, Ph. D., associate professor of bacteriology at the University of Texas Medical Branch, attended the first Inter-American Congress of Medicine in Rio de Janeiro, Brazil, in September, according to *The Journal of the American Medical Association*. Two Rio de Janeiro physicians, Drs. Emmanuel Dias and F. Laranja, have been visitors at the University of Texas and are conducting field trips in Texas to study cases of Chagas' disease in coöperation with Dr. Packchanian.

Personals

Dr. and Mrs. A. O. Scarborough, Mineral Wells, observed their sixtieth wedding anniversary October 26 with a family dinner given by their daughter, informs the Abilene *Reporter-News*. Close friends called during the afternoon. Dr. Scarborough retired three years ago from practice in Snyder, where he had been active for many years.

Dr. I. C. Morris, who came to Borger in 1926 during the oil boom, has retired after almost forty-five years of practice, reports the Borger *Herald*. Dr. Morris has returned to his native state of Arkansas to a farm at Rogers.

Dr. Cecil O. Patterson, Dallas, was named chairman of the Section on Gastroenterology of the Southern Medical Association at its meeting in Miami, Fla., November 4-7. He has served as secretary of the section for the past two years, according to the Dallas *Times Herald*. An exhibit on a new treatment for bleeding of the esophagus prepared by Dr. Patterson was awarded honorable mention at the meeting.

Dr. Erich Spier and *Dr. T. J. B. Shanley*, El Paso, became fellows in the International College of Surgeons at a recent assembly of the United States chapter in Detroit, states the El Paso *Times*.

Dr. William F. Mengert, Dallas, was recently named president-elect of the Central Association of Obstetricians and Gynecologists, informs *The Journal of the American Medical Association*.

Dr. Rollin S. Fillmore, formerly of Jacksboro and a veteran of World Wars I and II, will be the chief medical officer of a newly established medical division of the Veterans Administration sub-regional office in Amarillo, announces the Amarillo *Times*.

Dr. Gaylord A. Hart, Dallas, presented a paper on the relationship of the general practitioner and the surgeon for the Southern Medical Association in Miami, Fla., early in November, according to *The Journal of the American Medical Association*.

Dr. George R. Hodell, Houston, has passed the oral and written examinations for fellowship in the American College of Chest Physicians, the college announces.

Marriages

Dr. William Riley Snow, Abilene, married Mrs. William Emmett Ryan in Amarillo on September 1.

Births

To *Dr. and Mrs. H. A. Tubbs*, Fredericksburg, a daughter, Betty Jo.

To *Dr. and Mrs. E. L. Dyer*, Kerrville, a daughter, Alice Ruth, on July 28.

To *Dr. and Mrs. David McCullough*, Kerrville, a son, David, Jr., on September 28.

SOCIETY NEWS

Austin County Society

October 8, 1946

Dr. and Mrs. F. W. Hover, Sealy, were hosts to Austin County Medical Society and Auxiliary for dinner October 8. Fourteen guests were present. Meetings of each group were held following the meal.

Colorado-Fayette Counties Society

October 22, 1946

(Reported by C. I. Shult, Secretary)

Treatment of Congestive Heart Disease with High Fluid Intake —Merton M. Minter, San Antonio.

Merton M. Minter, San Antonio, was guest speaker for Colorado-Fayette Counties Medical Society when it met in Schulenburg on October 22. L. J. Peters, Schulenburg, president, presided over the session, which was preceded by a dinner at which the auxiliary was also present. Several cases were reported and a general discussion followed the paper on congestive heart disease.

Hidalgo-Starr Counties Society

October 10, 1946

Report on the Wagner-Murray-Dingell Bill—Foy Moody, Corpus Christi, and Ernest Miller, Beeville.

Auxiliary members joined members of the Hidalgo-Starr Counties Medical Society for a meeting October 10 in Mission at which the Wagner-Murray-Dingell bill was discussed by Foy Moody, Corpus Christi, and Ernest Miller, Beeville.

Hunt County Society

October 8, 1946

(Reported by Harriet Rogers, Secretary)

Newer Trends in Pediatrics—Lois Weir Smith, Dallas.

A practical discussion of new trends in pediatrics was presented by Lois Weir Smith, Dallas, guest speaker for Hunt County Medical Society on October 8. Dr. Smith emphasized that the time to prevent psychoses and insanity is in early infancy, and that each baby is entitled to a calm, quiet environment in which he is treated like a human being with individual personality reactions instead of like a clock. She encouraged the use of breast milk for at least two to four months and regular doses of cod liver oil for more than the first three or four months. She also urged the value of immunizations, especially against diphtheria, which has been predicted to reach epidemic stages this year. A general discussion centered primarily on the immunization problem was entered into by the eight members and two visitors present.

Ralph Jenks, Greenville, announced that a mobile x-ray unit for tuberculosis case finding would be in Greenville on November 25 and in Commerce the next day.

S. D. Whitten, Greenville, president, presided.

Jefferson County Society

October 14, 1946

(Reported by L. R. Byrd, Jr., Secretary)

Jefferson County Medical Society, meeting October 14 at St. Mary's Hospital, Port Arthur, passed a motion made by L. C. Powell, Beaumont, and seconded by Dan H. Byram, Port Arthur, endorsing the prepayment hospital and medical and surgical plans approved by the American Medical Association and the State Medical Association. The action fol-

lowed presentation of a historical survey of such prepaid plans and reading of recent reports on the subject by American Medical Association boards and councils by H. E. Alexander, Beaumont, member of the Economics Committee, and a discussion of the Blue Cross plan by Rex L. Tidwell, Houston regional director for Blue Cross. President George Sladczyk, Port Arthur, had proposed consideration of community chest coverage of certain low income groups for medical care, and promotion by the society of interest in group hospital and medical and surgical service plans among employers of large and small groups and leaders of civic organizations.

Upon motion of C. H. Todd, Beaumont, seconded by J. C. Crager, Beaumont, the society adopted an amendment to the By-Laws providing for employment of an executive secretary to assist the secretary-treasurer.

The Economics Committee, through Dr. Alexander, proposed an amendment to the By-Laws under which a seven member adjudication committee "to supervise industrial compensation practice and disputed bills in industrial and private practice" would be elected at the annual business meeting of the society.

I. G. Wilson, Beaumont, was accepted for membership upon transfer from Jasper-Newton Counties Medical Society.

A letter inviting society members to attend a dinner honoring Allen Shivers, lieutenant-governor elect of Texas, and Mrs. Shivers on October 17 was read.

Lamar County Society

November 7, 1946

Present Day Treatment of Venereal Diseases—Lamar A. Byers, Paris.

Twenty members of Lamar County Medical Society attended a dinner meeting November 7 at the Paris Golf Club. Lamar A. Byers, director of the Paris-Lamar County Health Unit, spoke on the treatment of venereal diseases.

Smith County Society

October 10, 1946

Histologic Anatomy of the Liver—J. W. Birdwell, Tyler.
Prothrombin and Vitamin K—Melvin Wilcox, Tyler.
Physiological Basis for Liver Function Tests—M. H. Moore, Tyler.

Twenty-six members were present for the first meeting this season of the Smith County Medical Society in the dining room of Mother Frances Hospital, Tyler, October 10. The scientific program outlined above was presented by Orion Thompson, Tyler, program committee chairman, who suggested that each member of the society prepare a paper to be used for society programs during the coming year and that societies in adjoining counties be offered these programs.

The society voted to appoint a committee to work with school officials in securing a mobile photofluoroscopic unit to make chest studies of high school sophomores and seniors.

B. N. Wilson, Tyler, was approved for membership by transfer from a Minnesota county society.

Tarrant County Society

November 5, 1946

(Reported by W. P. Higgins, Jr., Secretary)

Recent Advances in the Treatment of Appendicitis—Robert L. Sewell, Fort Worth.
The Treatment Program at the U. S. Public Health Service Hospital—W. F. Ossenfort, Officer in Charge, Fort Worth.

A resolution urging support by Tarrant County state legislators of bills providing for a basic science law and a revised medical practice law was adopted by Tarrant County Medical Society on November 5. Thirty-five members were present at the meeting in the Medical Arts Auditorium, Fort Worth. A letter from the State Medical Association regarding the bills was read by the secretary, and motion to pass the resolution was made by Hub E. Isaacks, Fort Worth, seconded by Frank G. Sanders, Fort Worth, following discussion by R. G. Baker and John J. Andujar, Fort Worth. Copies of the resolution and bills were to be sent to Tarrant County senators and representatives.

W. B. West, Fort Worth, vice-president, presided over the scientific program outlined above. R. J. White and Harold J. Shelley, Fort Worth, and John A. Hammack, Kennedale, discussed the paper by Robert L. Sewell, and Hub E. Isaacks, Fort Worth, discussed the paper by W. F. Ossenfort.

Frank S. Schoonover, Jr., brought three items to the attention of the society: (1) a suggestion that terms of trustees of the State Medical Association be limited to six years with a given trustee ineligible for reëlection for a similar period following his trusteeship; (2) the positive program of the American Association of Physicians and Surgeons toward proposed legislation concerned with socialized medicine; and (3) a suggestion that the name of the City-County Hospital be changed to Petersmith Hospital to avoid the stigma of charity for patients treated there.

A representative from the Metropolitan Casualty Insurance Company of New York presented that company's plan for group sickness and accident coverage.

Douglas E. Bibby, James O. McBride, Johnnie E. Monaghan, Jr., John L. Wallace, Jr., and Walter H. Stapp, all of Fort Worth, were elected to membership upon application.

A stag party for physicians to be given by the Renfro Drug Company on November 13 at the Casino was announced by M. H. Crabb, Fort Worth, chairman of the entertainment committee.

November 19, 1946

(Reported by W. P. Higgins, Jr., Secretary)

Our Tumor Clinic—Porter Brown, Fort Worth.
Carcinoma of the Colon with Complications—T. H. Thomason, Fort Worth.
X-Ray Diagnosis of Carcinoma of the Stomach—R. P. O'Bannon, Fort Worth.

Fifty members and two visitors heard about a new tumor clinic being established at the City-County Hospital, Fort Worth, to serve the entire northwest Texas area when Tarrant County Medical Society met in the Medical Arts Auditorium, Fort Worth, November 19. Porter Brown, in discussing the tumor clinic, said that 100 milligrams of radium have been purchased for use at the clinic.

T. H. Thomason, Fort Worth, urged that physicians be constantly alert for the first manifestations of cancer. He stated that of all gastro-intestinal malignancy, approximately 50 per cent involves the large intestine, and about 20 per cent of these malignancies are in the sigmoid. George R. Enloe, R. J. White, B. C. Ball, W. C. Tatum, Harold M. Williams, M. C. Archer, Oscar W. Haffke, John J. Andujar, and Dr. Brown discussed Dr. Thomason's presentation.

R. P. O'Bannon discussed x-ray diagnosis of carcinoma of the stomach, presenting case reports illustrated by slides.

Arthur J. Auringer, Arlington, and Robert G. Lemon, Leo N. Roan, and Marie L. Shaw, Fort Worth, were elected to membership, Dr. Auringer by application and the others by transfer.

The secretary read a letter from the State Medical Association stating that the fiscal year of the association is being changed and asking for prompt payment of dues.

Tom Green-Eight County Society

October 7, 1946

Neurological Aspects of Congenital Defects in the Newborn—L. M. Helfer, San Antonio.

L. M. Helfer, San Antonio, was guest speaker for Tom Green-Eight County Medical Society on October

7. He discussed neurological aspects of congenital defects in the newborn.

Announcement was made of the district society meeting in Brady to be held October 23.

Eleventh District Society

October 24, 1946

(Reported by C. B. Young, Secretary)

Diverticulitis and Diverticulosis—J. T. Boyd, Jacksonville.
Discussion—Fred E. Felder, Palestine.
Urological Anomalies—Max Moulder, Longview.
Discussion—Thomas M. Jarmon, Tyler.
Luncheon: Responsibility of the Doctor to the Public—B. E. Pickett, Carrizo Springs, President-Elect, State Medical Association.
Diarrhea in Infants and Children—Masters H. Moore, Tyler.
Discussion—Orion Thompson, Tyler.
Wire Sutures and Early Ambulation in Surgery—Robert Bell, Palestine.
Discussion—E. H. Caldwell, Tyler.
Treatment of Diabetes Mellitus—James A. Greene, Houston.
Discussion—J. Weldon Birdwell, Tyler.
Prevention of Sudden Death in Obstetrics—Herman Johnson, Houston.
Discussion—C. E. Willingham, Tyler.

Approximately seventy-five physicians and their wives attended the fall meeting of Eleventh District Medical Society and Auxiliary at the Palestine Country Club, October 24. The two groups met jointly for luncheon, at which the President-Elect of the State Medical Association, B. E. Pickett, Carrizo Springs, spoke. The medical society heard the scientific program outlined above and a short talk by Congressman Tom Pickett, Crockett, in which he expressed unqualified opposition to the Wagner-Murray-Dingell bill.

Dues were set at $2 annually, and it was decided that membership cards would be issued.

Thirteenth District Society

October 24, 1946

(Reported by Joe R. Wise, Secretary)

The Persistent Positive Friedman Test in Hydatid Mole—May Owen, Fort Worth.
Cancer of the Colon—R. G. Baker, Fort Worth.
Present Status of Cancer—W. V. Ramsey, Abilene.
Luncheon: Address—C. C. Cody, Jr., Houston, President, State Medical Association.
Painful Conditions About the Shoulder—E. L. Graham, Cisco.
Modern Concept of Fractures of the Hand—Jack E. Maxfield, Wichita Falls.
Treatment of Varicose Veins and Ulcers—Harold J. Shelley, Fort Worth.
Rheumatic Fever and Some of Its Problems—R. E. L. Gowan, Graham.

Thirteenth District Medical Society met in Graham on October 24 for the program outlined above. The sixty-three members present decided that the next meeting would be held next spring at Abilene, and elected the following new officers: Frank Hodges, Abilene, president; V. L. Powers, Wichita Falls, vice-president; and Robert Stokes, Fort Worth, secretary-treasurer.

Fifteenth District Society

October 8, 1946

Invocation—Rev. W. C. Cummings, First Presbyterian Church, Marshall.
Welcome—S. W. Tenney, Marshall.
Anesthetics—Madison Ragland, Gilmer.
G. I. Disorders—Tate Miller, Dallas.
Common Skin Diseases—Everett Fox, Dallas.
Luncheon.
Address of President, State Medical Association—C. C. Cody, Jr., Houston.
Remarks of Secretary, State Medical Association—Holman Taylor, Fort Worth.
Report of Councilor—Charles A. Smith, Texarkana.
Business Meeting.
Meningococcemia with Pericarditis—Robert M. Barton, Dallas.
Pediatrics—J. Wirt Burnett, Texarkana.
Office Surgery—R. G. Granberry, Marshall.

Fifteenth District Medical Society met at Fern Lake near Marshall on October 9 with F. S. Littlejohn, Marshall, president, presiding. The program indicated above was carried out. During the business session, officers for the coming year were elected as follows: Joe Roberts, Longview, president; W. S. Terry, Jefferson, vice-president; and S. W. Tenney, Marshall, secretary-treasurer. Joe D. Nichols, Atlanta, was nominated as Councilor for the district, the nomination to be acted upon at the annual session of the State Medical Association in May, 1947.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. George Turner, El Paso; President-Elect, Mrs. Edward C. Ferguson, Beaumont; First Vice-President, Mrs. L. B. Windham, Tyler; Second Vice-President, Mrs. V. M. Longmire, Temple; Third Vice-President, Mrs. R. E. Clark, Memphis; Fourth Vice-President, Mrs. J. E. Hogan, Big Spring; Corresponding Secretary, Mrs. Robert F. Thompson, El Paso; Recording Secretary, Mrs. M. A. Ramsdell, San Antonio; Publicity Secretary, Mrs. J. F. Campbell, Fort Worth; Treasurer, Mrs. Guy Jones, Dallas; Parliamentarian, Mrs. Joe Nichols, Atlanta.

AUXILIARY NEWS

Bexar County Auxiliary honored Mrs. George Turner, El Paso, State Auxiliary president, with a luncheon at the San Antonio Country Club on October 11.

Ellis County Auxiliary held a luncheon at Waxahachie Country Club on November 9 with Mrs. George Turner, El Paso, State Auxiliary president, as honor guest and speaker. Mrs. Truman Terrell and her daughter, Miss Katherine Terrell, both of Fort Worth, and Mrs. Forrest Buchanan, Dallas, president of Dallas County Auxiliary, were other special guests. Mrs. S. H. Watson, president of the Ellis County Auxiliary and past president of the State Auxiliary, introduced Mrs. Turner. Mrs. Turner and Mrs. Buchanan were presented with corsages. Twenty-four women were present.

In the afternoon Mrs. S. P. Skinner entertained with a seated tea honoring the auxiliary guests and her house guest, Mrs. Frank Templeton, Ennis. Mrs. Turner presided at the tea service.

Galveston County Auxiliary entertained with an afternoon coffee at the Bayou Club, Galveston, on November 15. Mrs. M. L. Graves, Houston, spoke on the student loan fund, and Mrs. L. L. D. Tuttle, also of Houston, spoke briefly. Mah-jongg and bridge were played. Mrs. Hamilton Ford and Mrs. Clarence Sykes were in charge of arrangements, and Mrs. John L. Otto, presided. Arrangements of greenery decorated the rooms.—Mrs. John L. Otto, President.

Hopkins-Franklin Counties Auxiliary met September 18 in the home of the president, Mrs. L. Faulk, Sulphur Springs. Mrs. Earl Stirling, also of Sulphur Springs, was cohostess for this initial meeting of the year. Plans were discussed for the year's work. It was decided to have a "doctor's day" in October, to help local hospitals in securing student nurses, and to study new medicines. Refreshments were served to ten members. Fall flowers decorated the meeting rooms.—Mrs. W. Ray Hanna, Corresponding Secretary.

Jefferson County Auxiliary was entertained at a morning coffee in the Mirror Room of Hotel Beaumont, on October 3, with Mesdames P. Allison, H. E. Alexander, and J. A. Bybee, all of Beaumont, as hostesses. Mrs. Milton J. White, Port Arthur, presided in the absence of the president. Approximately sixty-five guests were served from a table decorated with chrysanthemums.—Mrs. G. R. Solis, Publicity Secretary.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary held its first meeting of the fall on October 13 at the home of Dr. and Mrs. S. E. Thompson, Kerrville. The medical society met with the auxiliary. Mrs. George Turner, El Paso, State Auxiliary president; Dr. M. M. Minter, San Antonio, chairman of

the Public Relations Committee of the State Medical Association; Dr. and Mrs. F. N. Haggard, San Antonio; and Dr. and Mrs. C. B. Alexander, San Antonio, were special guests introduced by Mrs. L. L. Keyser, Fredericksburg, president of the host auxiliary. Mrs. Turner told the group of the aims and purposes of the Auxiliary and suggested means of carrying on its work during the year. Dr. Minter, who was presented by Dr. W. E. Gregg, president of Kerr-Kendall-Gillespie-Bandera Counties Medical Society, discussed the proposed basic science bill and medical practice act bill. Dr. Gregg introduced new members of the society and welcomed several former members who have returned from military service. Following the meeting, supper was served by auxiliary members at the outdoor barbecue pit.—Mrs. W. E. Gregg, Acting Secretary.

McLennan County Auxiliary entertained Mrs. George Turner, El Paso, State Auxiliary president, at its October 17 meeting at the Waco Country Club. About fifty women were present. Mrs. Ray E. Bullard, president, presided, and Mesdames Boyd Alexander, W. A. Wood, M. C. Carlisle, W. E. Colgin, Ralph Coffelt, H. M. Anspach, M. D. Baker, and M. C. Barnes were hostesses. Mrs. Turner outlined the accomplishments she hopes the Auxiliary will achieve during 1946-1947, emphasizing the work of most importance to each county auxiliary. She stressed the idea of having members informed in health education who will pass along such information through personal contacts and other channels to laymen. The community chest was given $15, and new yearbooks were distributed.

A no-host dinner for Mrs. Turner, sponsored by Mesdames Bullard, Wood, H. R. Dudgeon, and F. F. Kirby, was held in the evening at a restaurant.—Mrs. F. F. Kirby, Publicity Chairman.

Nueces County Auxiliary has reported that a committee composed of Mesdames John Sloan (chairman), A. J. Ashmore, R. V. St. John, Edwin A. Danford, and C. Duncan Stewart, all of Corpus Christi, is at present leading the auxiliary in continuing a project begun in October, 1944: the organization and support of a blood donor system in Nueces County. Although the service makes available the names of professional donors, particular attention has been given to securing volunteer donors through churches, civic clubs, and other groups, so that blood will be available for patients unable to pay for it. Approximately two hundred names are on the list, which has been revised and typed for ready use. Drs. J. F. Pilcher and Y. C. Smith have assisted the auxiliary in formulating plans and typing the blood of prospective donors.—Mrs. C. Duncan Stewart, Press Reporter.

Mrs. C. F. (Esther) Crain, Corpus Christi, Texas, died June 14, 1946. Besides her husband, she is survived by a son, Peter Jefferson Crain, a midshipman at Annapolis.

Orange County Auxiliary met November 6 in the home of Mrs. Oliver Seastrunk, Orange, with Mrs. C. B. Shaddock as cohostess. Mrs. Seastrunk presented Mrs. L. C. Shipman, executive secretary of the Orange County Tuberculosis Association, who discussed the control of tuberculosis in the county. A dessert course was served to nine members and one guest.

Tom Green-Eight County Auxiliary met at the San Angelo Country Club on November 4 with twenty-four members present and Mrs. R. M. Arledge, president, presiding. The program was in observance of "doctor's day." A total of $18.50, to be divided equally between the Doctors' Memorial Fund and the Medical Student Loan Fund, in memory of the late Dr. C. E. Mayes, San Angelo, was collected. It was voted to donate $5 to the tuberculosis association. Mesdames Harvey Williams and Clay H. Johnson were accepted for membership. Coffee, sandwiches, and cake were served to the auxiliary members and their husbands by Mesdames R. M. Finks, Cecil French, Gordon Madding, Murray Wood, J. V. Sessums, Leon Hutchins, and Carl Kunath.

Travis County Auxiliary held its first meeting of the year October 15 in Austin. A luncheon was held in honor of Mrs. George Turner, El Paso, State Auxiliary president, who spoke on the objectives and aims of the Auxiliary. Special emphasis was placed on a study of current economic and social conditions.—Mrs. Virgil S. Rabb, Publicity Chairman.

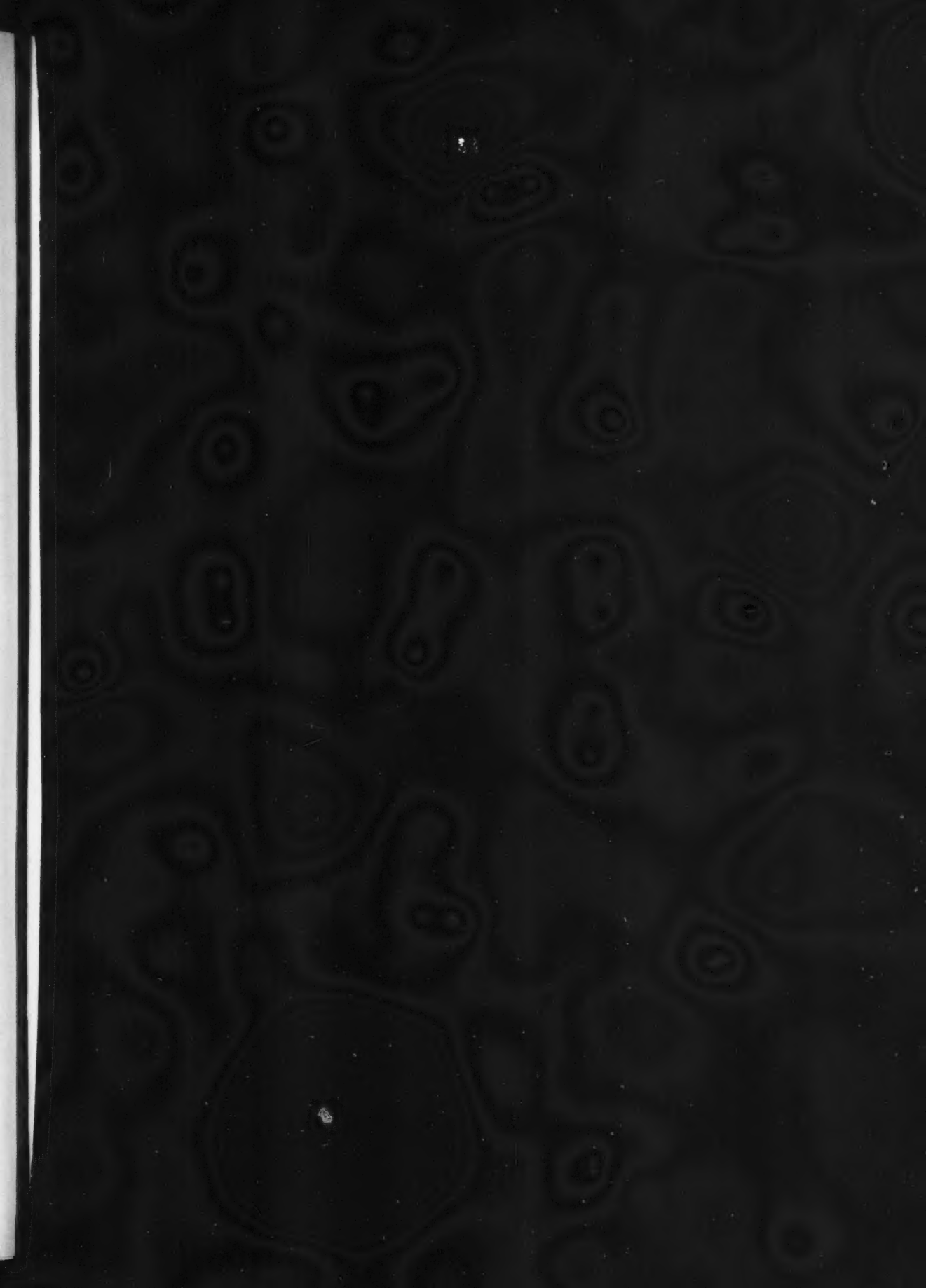
Washington County Auxiliary observed "doctor's day" by entertaining the medical society with a barbecue supper October 28 at the dairy farm home of Dr. and Mrs. W. F. Hasskarl. Guests inspected the dairy farm and played games, in which the women were declared winners over the men.—Mrs. W. F. Hasskarl.

Fourth District Auxiliary met October 23 in Brady at the home of the president, Mrs. D. W. Jordan, for a business session, book review, and tea hour. The auxiliary met jointly with the medical society for lunch and dinner at Hotel Brady. Following the invocation by Mrs. Glenn Ricks, Brady, new officers were elected as follows: Mesdames John Nichols, Coleman, president; Charles Bailey, Ballinger, vice-president; Francis M. Burk, Coleman, secretary; Ben M. Shelton, Brownwood, treasurer; Glenn Ricks, Brady, publicity secretary; and Victor Schulze, San Angelo, parliamentarian.—Mrs. H. B. Allen, Publicity Secretary.

Eighth District Auxiliary heard Mrs. George Turner, El Paso, State Auxiliary president, when it met October 18 at the home of Dr. and Mrs. S. H. Kirkham, Columbus. Mrs. Turner considered the objectives of the Auxiliary in her talk. Mrs. James H. Wooten, Jr., Columbus, president of Colorado-Fayette Counties Auxiliary, presided. The Colorado-Fayette Auxiliary was host at a tea hour during which guests were served refreshments from a table decorated in the Halloween motif. Mrs. P. R. Denman, Houston; seven members of the DeWitt-Lavaca Auxiliary; six of the Wharton-Jackson-Fort Bend-Matagorda Auxiliary; and seven of the Colorado-Fayette Auxiliary were present in addition to Mrs. Turner.

Eleventh District Auxiliary met October 24 in Palestine, first joining the medical society for lunch at the Meadowbrook Country Club and then adjorning to the Blue Moon Inn for a business session and social hour. Mrs. George M. Hilliard, Jacksonville, president, presided. Mrs. R. H. Hodge, Athens, read the minutes; Mrs. J. M. Travis, Jacksonville, gave the treasurer's report; and county auxiliary activities in Smith, Henderson, and Cherokee Counties were presented. Mesdames C. E. Willingham, Tyler; R. T. Travis, Jacksonville; and R. H. Hodge, Athens, were appointed a nominating committee. Mrs. L. B. Windham, Tyler, first vice-president of the State Auxiliary, reported on the State Executive Board meeting in Fort Worth on October 30. She invited the district auxiliary members to Tyler for a meeting at which Mrs. George Turner, El Paso, State Auxiliary president, will speak. Announcement was made that the next district meeting will be in Tyler next spring.—Mrs. T. A. Stevens, Reporter.

Thirteenth District Auxiliary met in Graham on October 24 with sixteen members present. After luncheon with the medical society, the auxiliary heard Mrs. Nora Ellington, Graham, review "The Emperor's Physician" by J. R. Perkins. Mrs. Ellington presented the review when it was learned that Mrs. A. B. Pumphrey, Fort Worth, chairman of the Legislative Committee of the State Auxiliary, the scheduled



speaker, could not be present. Mrs. Tom B. Bond, Fort Worth, discussed cancer control, giving information about and warning against the disease.—Mrs. P. M. Kuykendall, Secretary.

DEATHS*

Dr. Samuel Elihu Cramer, Electra, Texas, died in a Dallas hospital September 27, 1946, of cerebral hemorrhage following an illness of several years.

The son of Samuel Joseph and Susanna Abbie (Connor) Cramer, Dr. Cramer was born March 25, 1881, at Daingerfield, where he received his preliminary education. He attended Tulane University, New Orleans, and the old Gate City Medical College, Texarkana, Ark. He served an internship at Charity Hospital, New Orleans, and practiced for a short time at Noonday, Texas, and Daingerfield before moving to Electra in 1908. Dr. Cramer practiced many years in Electra before his retirement.

DR. S. E. CRAMER

Dr. Cramer was a member of the Morris County Medical Society during his residence at Daingerfield and of the Wichita County Medical Society after his location in Electra. He was a member of the State Medical Association almost continuously throughout his professional career and was elected to honorary membership in 1933. He was also a member of the American Medical Association. He served as city health officer in Electra for several years. As a boy, Dr. Cramer acted as page for the Twenty-Fourth Legislature in Texas, during the administration of Governor James Stephen Hogg. He was a member of the Presbyterian Church.

June 16, 1909, Dr. Cramer married Miss Faye Cahill, who survives. Also surviving are one son, S. J. Cramer, Grand Prairie, and two grandchildren.

Dr. John Carr Garrett, Huntsville, Texas, died October 20, 1946, of gunshot wounds inflicted as he was about to enter a house to make a professional call. The estranged husband of the patient committed suicide after shooting Dr. Garrett.

Dr. Garrett, son of the Rev. C. E. and Addie (Carr) Garrett, was born in Bremond, May 23, 1914. He attended high school at Huntsville, received his academic education at Sam Houston State Teachers College, Huntsville, and was graduated from the University of Texas School of Medicine, Galveston, in 1938. He interned at John Sealy Hospital, Galveston, and then opened his practice at Huntsville. From June, 1943, until April, 1946, Dr. Garrett served with the Army Medical Corps, first receiving a commission as captain and being discharged from service as a major.

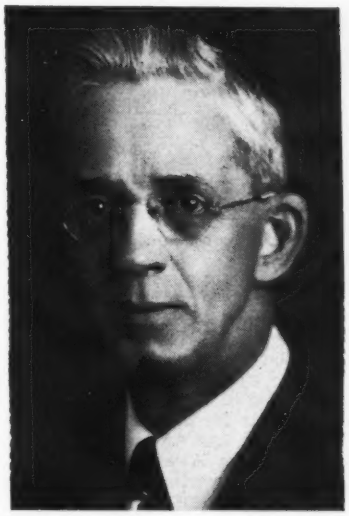
DR. JOHN CARR GARRETT

During his professional career Dr. Garrett was a member of the State Medical Association and American Medical Association through Walker-Madison - Trinity Counties Medical Society. He was president of the county society in 1942. He was a member of the Methodist Church, Alpha Omega Alpha honorary medical fraternity, Phi Beta Pi, Masonic order, and the Kiwanis Club.

Surviving Dr. Garrett are his wife, the former Miss Marie Stubblefield, whom he married July 5, 1939, at Paris; his father, the Rev. C. E. Garrett, Huntsville; and his mother, Mrs. Addie Carr Garrett, Houston.

Dr. Simeon Harrison Newman died of heart disease at his home in El Paso, Texas, on October 4, 1946.

Dr. Newman, son of Simeon Harrison and Jessie (Geck) Newman, was born August 31, 1888, in El Paso where he attended high school. He was graduated from the University of Texas School of Medicine in 1912, and served an internship at the Hudson Street Hospital, New York. The next few years Dr. Newman served as physician for mining companies in Mexico and Chile. In 1916 he was commissioned a first lieutenant in the Army Medical Corps, and after receiving basic training at Fort Riley, Kan., he was assigned to a hospital train in France, where he served from July, 1917, to April, 1919. After his



DR. S. H. NEWMAN

*An obituary ordinarily will not be published more than four months after date of death. Coöperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

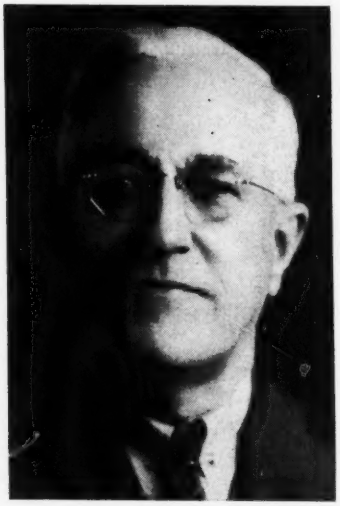
release from the Army, Dr. Newman returned to El Paso, where he was in practice until his death.

Since 1920 Dr. Newman had been a member of the State Medical Association and American Medical Association through El Paso County Medical Society. He served two terms as president of the City-County Health Board.

Dr. Newman married Miss Willie Lea Montague on November 9, 1914, in El Paso. Surviving are his wife; a daughter, Miss Frances Montague Newman, New York, N. Y.; two sons, Simeon Harrison Newman, III, and Fletcher Campbell Newman; one brother, Lee Newman, and one sister, Mrs. C. A. Longuemare, all of El Paso.

Dr. Alfred Iverson Folsom, Dallas, Texas, was killed in an automobile crash near Dallas on October 3, 1946, when he was returning from a meeting of the South Central Urological Society in Hot Springs, Ark. Mrs. Folsom was badly injured in the accident.

Dr. Folsom was born May 9, 1883, at McGregor, the son of Dr. Alfred Iverson and Mary Frances (Powell) Folsom. His parents died when he was a boy, and he moved to Waxahachie to live with an uncle. After securing his preliminary education at McGregor and Waxahachie, Dr. Folsom received a bachelor of arts degree from Southwestern University, Georgetown, in 1904, and a doctor of medicine degree from old Southwestern Medical College, Dallas, in 1908. He later did postgraduate work at Rochester, Minn., specializing in urology. Dr. Folsom began practice at Alba, Texas, but moved in 1910 to Dallas, where he shortly turned to the specialty of urology, in the practice of which he was active until his death. He was a pioneer urologist in the Southwest and an accepted authority in this field. A forceful and interesting speaker, he was in great demand for medical programs.



DR. ALFRED IVERSON FOLSOM

Continuously throughout his professional life, Dr. Folsom was a member of the State Medical Association, and American Medical Association, for a short time through Wood County Medical Society and for many years through Dallas County Medical Society. He served as secretary of the Section on Surgery of the State Medical Association in 1922. He was a fellow of the American Medical Association, a member of the American Board of Urology since its organization, a fellow of the American College of Surgeons, and a member of North Texas District Medical Association and Dallas Southern Clinical Society. He was past president of the Texas Surgical Society and the South Central Urological Society and was president of the American Urological Association at the time of his death. For many years he was professor of urology and head of the Department of Surgery of Baylor University College of Medicine in Dallas before its removal to Houston. He was professor of urology at Southwestern Medical College, Dallas, from the time of its establishment until his death. He had been chief of the urology department of Parkland Hospital since 1923 and of the urology department of Baylor University Hospital for a number of years, having been on the staff more than thirty years. He was also a member of Baylor's medical board. He was honorary professor of urology at the University of Guadalajara, Guadalajara, Jalisco, Mex. He was a member of the Methodist Church, Kappa Alpha fraternity, and Dallas Country Club.

Preceding Dr. Folsom in death January 12, 1938, was a first wife, the former Miss Ann Rebecca Hodge, whom he married September 29, 1909. Survivors include his present wife, Mrs. Erma Folsom; one son, Alfred I. Folsom, Jr., Chicago, Ill.; and two daughters, Mrs. George Crofford, Jr., and Mrs. J. O. Neuhoff, both of Dallas.

Dr. I. D. Russell, Burkburnett, Texas, died at his home August 27, 1946, following an illness of three months.

Born in 1871 at Sulphur Springs, Dr. Russell moved to Winnsboro at an early age. He was graduated from Baylor University College of Medicine, Dallas, in 1912, and later did postgraduate work at Tulane University, New Orleans, and in Chicago. Starting his practice at Edgewood, Texas, he moved to Petrolia in 1908, practiced a short time in Wichita Falls, and then in 1918 located in Burkburnett, remaining in that town until his death.

DR. I. D. RUSSELL

Throughout his professional career Dr. Russell was a member of the State Medical Association and American Medical Association, first through Van Zandt County Medical Society and Clay County Medical Society, and then through Wichita County Medical Society. He was a member of the Wichita County Tuberculosis Association, local surgeon for the Missouri, Kansas and Texas Railroad, and city health officer for a number of years. He was a member of the Methodist Church, a Mason, and a member of the Lions Club.

Survivors include Dr. Russell's wife, the former Miss Ruby Kendall, whom he married May 30, 1923, in Birmingham, Ala.; one son, J. C. Russell, Long Beach, Calif.; three daughters, Mrs. Clyde Gibson and Mrs. Luther Bell, Wichita Falls, and Mrs. Ruby Nell Bowman, Burkburnett; two sisters, Mrs. L. B. Carrington, Waco, and Mrs. J. T. Freland, Dallas; a nephew, Dr. A. D. Pattillo, Wichita Falls; five grandchildren; and one great granddaughter.